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W. L. Reynolds

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THE FARMER AND PLANTER



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VOL. X.

SEPTEMBER, 1859.

NO. 9.

R. M. STOKES, }
PROPRIETOR.

COLUMBIA, S. C.

{ NEW SERIES
VOL. 1, No. 9.

For the Farmer and Planter.

MEANS OF IMPROVING OUR SOIL.

An Address delivered before the Black Oak Agricultural Society, at its Anniversary Meeting, April 26th, 1859, by JULIUS T. PORCHER.

(CONCLUDED.)

As to the value of sugar-cane for fodder, I may state that during the past Winter all my cattle were for three weeks fed upon nothing else, never going out of the pen except for water, and that during that time they improved decidedly; my only reason for not continuing with it till Spring was the fear that I had not enough. And though peas do not appear to furnish a good manure for cotton I have used them with decided advantage for slips; and in Virginia they are frequently made to take the place of clover. There is then no doubt as to the adaptability to our climate of all the plants I have mentioned, and their value, both as manures and food, has been most fully tested, so that the want of suitable crops at least cannot be urged as an objection to our adopting this part also of the English system.

But where, it might be asked, is the manure for all these crops to be procured? Strange as it may at first appear, I answer that these crops themselves, if properly used, will furnish more than they require; for I find that in England an animal will furnish, with the litter necessary to keep him comfortable, dung enough for *twice* as much land as is required to produce his turnips and other feed.*—

* This statement and the one made before, that a well fed English ox will furnish 38 cubic yards of dung, may require some remarks in confirmation. I could not find definite statements to the same effect, but have made the calculations from data furnished by Stephen's Book of the Farm, and Caird's English Agriculture, and have also verified them from other sources; which makes them I

And this is a fact to which I would invite your especial attention, since it is this which renders the system I propose an improving one, for by it every acre devoted to the production of food for our cattle, not only benefits them, but furnishes over and above its own demand, a sufficient quantity of excellent dung for at least one other acre, which may be applied to cotton, corn, or anything else.

I am aware that some may object to this statement, on the ground that it is only extracting the valuable ingredients of part of our land, and annually transferring half of them to another part, so that in the end there will be no gain whatever. It is certainly true that if we continue to take crops from our land without returning to it something, we shall eventually exhaust all its available mineral ingredients, and these must be supplied or it will become totally unproductive; but it must be remembered that all our soils contain in greater or less quantity every one of the ingredients our crops require, or they could not produce them at all. And I do not hesitate to say that where the quantity of any of these ingredients is small, the deficiency must be made up from abroad, since no system of cropping can supply them. It frequently happens, however, that the soil does contain all of these ingredients in sufficiently large quantity to produce good crops, but that they are unavailable to the plants, from the fact of being in combination with others which render them insoluble, and therefore,

think quite reliable. Stephens, in section 868, says: The usual allowance to eat a crop of 30 tons of turnips in the Winter half year, or 180 days, is 16 young and 8 old Leicester sheep, and 20 young and 10 old black faced sheep per acre;" and in the next paragraph, "A two-year old short horn ox will consume 26 tons, and a three-year old 30 tons of turnips in 180 days." He shows elsewhere that

until these combinations are broken up, they are as useless as if they did not exist. Now there is perhaps no practicable agent so efficacious in breaking up these combinations as the rootlets of plants; but in doing this the plants absorb a part or the whole of the ingredients into their own system, and of course, if removed, carry them off; but if, on the contrary, they are turned into the soil and allowed to rot there, or are brought back after having undergone the decomposing effects of digestion and fermentation, these ingredients are given up in a more or less soluble condition; so that the roots of the next crop have not only the insoluble parts of the soil from which they extract something, as did those of the previous crop, but they find, in addition, all that had been extracted by that crop, now in such a state as to be readily absorbed. Hence, one of the means by which clover and other green manures, and cattle feeding crops generally, improve the soil is, that they render its mineral ingredients, not more abundant, but more available; and this is, in a certain sense, the same as if they had added something to it.

But even with these green crops, I am free to confess, the mineral ingredients of the soil would eventually be exhausted, since it is proposed to return to it only a part of the dung made from its products, and that our only remedy is to supply them from without. This I intend shall be done,

the "young" sheep is to the "old" as 1 to 1.6, which would make the average of the above numbers just 20 old sheep for the 30 tons of turnips: so that 30 tons of turnips will feed 20 sheep as long as 28 tons (the mean of 26 and 30) will feed one ox, which makes one ox equal to 18 $\frac{2}{3}$ sheep.

Caird on pp. 336-8 gives an account of Mr. Atkinson's Seaham Hall farm in the county of Durham, by which it appears there were 428 acres in active cultivation; these were divided equally and planted as follows: 1 clover, 2 potatoes, 3 wheat, 4 turnips, 5 potatoes, and 6 wheat, 70 acres each. The potatoes and turnips together amounting to 210 acres, were manured at the average rate of a little over 18 loads (or tons, the terms being used as convertible) of dung per acre, and required 3,815 loads. On the farm there were 70 head of cattle, 300 sheep and 14 horses. At the rate of 18 $\frac{2}{3}$ for one, the 300 sheep were equal to 16 head of cattle, and if we add the horses as equal each to one ox, there were just 100 head of cattle to produce these 3,815 loads, which gives, as I have said, 38 loads for each.

These 38 loads at 18 per acre, (the quantity applied by Mr. Atkinson) were enough for rather more than 2 acres, and the produce of 2 acres was from 56 to 70 tons of turnips, or more than twice as much as was consumed by the ox from which the 38 loads of dung were made, 1 ox, as we have seen, requiring only 28 tons. Guano and other fertilizers were also used in addition to the farm-yard dung; these not only assisted in increasing the general production of the land, but enabled Mr. Atkinson to sell all the potatoes as well as wheat, and devote, instead of one-half, only one-third of his farm, the 70 acres of clover and 70 of turnips, to cattle feeding and dung making.—This farm then is a practical illustration of the fact that an animal will furnish dung for at least twice as much land as is requisite to produce his feed.

and we must therefore estimate the quantity of ashes in the various crops, as in them are contained all the mineral ingredients removed from the soil.—Thirty tons, or 1,500 bushels, of turnips contain rather less than 500 lbs. of ashes, and taking only 33 lbs. as the weight of a bushel of ashes, we shall remove from the soil in all these 1,500 bushels of food only 15 bushels of ashes; but as only a little more than half of this is entirely lost to it, the rest being returned in the dung, it would require not more than 8 bushels of ashes to restore the loss occasioned by the turnips. By a similar calculation a little over 3 bushels would be required after a crop of 320 bushels of Irish potatoes; only half a bushel after a crop of 50 bushels of corn; and like small quantities for the others. So that in all the three years the mineral ingredients removed by even such large crops as those I have taken for my estimate, would amount to so little, that supposing they were not replaced by the leaves used as litter, they could almost be supplied from our fire-places.

As to the ammonia and other organic ingredients contained in these crops we need feel no uneasiness; they would be increased instead of diminished, since the atmosphere is the inexhaustible reservoir, from which they are supplied, and growing plants especially when disposed of in accordance with this system, the best mode of accumulating them.*

And Stephens, in paragraph 811, says: "It has been found by experience that more than half of a fair crop of turnips consumed on the ground by sheep, leaves more manure than is proper for the ground to receive at one time for the succeeding crop."

Our land would not of course, in its present condition, produce such large crops as those I have mentioned, and it could not be expected that the "farm" would at once furnish manure for an equal number of acres in the "plantation;" it would for several years require a great part if not the whole of the dung made from its produce to render its own soil sufficiently rich, and would therefore be able to supply the plantation fully only after it had enriched itself.

* I will pass over the carbon, hydrogen, and oxygen, as there is no doubt about the first, and the other two are dependent upon the quantity of rain; but, with regard to nitrogen, the important element in ammonia, though recent investigations leave almost as little doubt concerning it as the others, it may be necessary to make a few remarks. The experiments of Mr. Ville, a French chemist, led him (and not without good reason) to the conclusion that plants possess the power of absorbing and appropriating atmospheric nitrogen in a manner similar to that in which they absorb carbonic acid; but Boussingault's experiments on the subject, though conducted in a different way, led him to the contrary opinion: and the great care observed by both these chemists induces Prof. Way to say that "the question is not definitively settled by these experiments, valuable and interesting as they are." We cannot therefore say that the *uncombined* nitrogen of the atmosphere is directly serviceable to the nutrition of plants, but all agree that they do absorb from the air a greater or less quantity of nitrogen, in the shape of ammonia; and Boussingault's experiments prove that

Nor is it necessary to confine myself to theory in support of this point, though its evidence is perfectly satisfactory; for I could point to small farms in England, of from 3 to 5 acres each, where for many years the scanty supply of ashes from a single ill-fed fire was the only manure used in addition to the dung made by the animals fed upon part of the produce of the farm; and on which the fertility of the soil was actually increased, notwithstanding a considerable quantity of wheat, butter and pork, (in one instance amounting to as much as \$40 worth per acre) were regularly sold away, and their mineral and other ingredients entirely lost.* But I need not multiply proofs to show that land can be made to do more than maintain its own fertility, I think the fact is sufficiently evident, and we may, as I said before, rely upon having, beyond its own requirements, at least one acre of highly manured cotton or corn for every acre devoted to the production of feed for our cattle.

This might all be accepted as true, and yet the objection made, that it would not be profitable, since by our own estimate it requires one-half, or nearly one-half, of the plantation to furnish manure for

*For illustrations of this see Coleman's "European Agriculture." Chapters on Allotment System.

this is done to the greatest degree by leguminous plants, clover, peas, &c., precisely those which experience had shown were the best for green manures. Now, if we return these plants to the soil in either of the two ways I have mentioned, the nitrogen, as well as the other organic ingredients which they have appropriated from the atmosphere, will be given up, and it is evident that by a succession of such extractions from the air and additions to the soil, the quantity of these ingredients could be indefinitely increased, without resort to other means.

There are, however, two other modes in which ammonia is added to the soil from the air, and to which, though not dependent upon the cattle-feeding system, I will allude, since they will serve to strengthen the assertion that a very high degree of fertility can be attained without the use of guano; they are the water which comes from the atmosphere, whether in the shape of dew, rain, or snow, and the absorbing power of the soil itself. Prof. Way found, by analysis of the water collected in an enormous rain gage (1-1000 of an acre) at Rothamsted, the farm of Mr. Lawes, 20 miles from London, that the quantity of ammonia and nitric acid brought down by the rain in the years 1855 and 1856, was equal to about 52 lbs. of guano for each acre, a quantity which, as he says, is not sufficient to account for the whole of the natural fertility of soils, but which must contribute to it materially.

This equivalent of 52 lbs. of guano is, however, by no means an indication of the whole quantity of ammonia and nitric acid which actually exist in the air, for if it were, there would be a much larger amount in the water collected after a long interval without rain, than after a short one, since they would have had time to accumulate. But Prof. Way found there was no such accumulation, there being a general though not uniform relation between the quantity of these fertilizers and the quantity of rain, irrespective of the intervals, whence he infers there is a constant and extensive *absorption* which prevents this accumulation. This he ascribes, in part, as we have seen, to plants, but in a much greater degree to the soil

the other, and it would therefore take too much from the cotton, both in time and labor. This we can examine more advantageously when we come to the question of the amount of labor requisite under the two systems; but it will be in part at once removed by the consideration of the third point under this head; the disposition to be made of the cattle after they have been fed; for I mentioned that this, as well as the improvement of the soil, was a source of profit. But before going further, it will be well to remind you of the fact, if perchance you have forgotten it, that we plant not for the purpose of making cotton, but money, and that if it were more profitable to do so, we would willingly give up not only a part but the whole of our cotton crop, just as our fathers abandoned their indigo.

Let us suppose ourselves then fully embarked under this new system, and possessed consequently of a number of well-fatted cattle, and that these must be profitably disposed of, or they subject us to the loss of one of the advantages accruing to the Norfolk farmer. Here, I think, we need have little uneasiness; for Charleston, which is much nearer to us than London was to him, is supplied with cat-

itself—some kinds of which, he has found by experiment, possess this property of absorption to a very great extent, those with a large quantity of clay being highest in the scale of excellence, and sand the lowest; though even this absorbs more than we would suppose.

With the rain and dew to assist us in bringing down these fertilizers, and the innumerable mouths of the soil always ready to drink them, it might be supposed there would be no occasion for any efforts on our part to extract a still larger supply from the air; but in order to reap the full benefit of "this newly discovered bounty of Nature," Prof. Way says, the farmer should resort to "drainage, which promotes the equal flow of water through instead of over his soil; and deep cultivation and thorough pulverization of the land, which brings every part of it into contact with the air. The atmosphere is to the farmer like the sea to the fisherman—he who spreads his net the widest will catch the most."

The most remarkable instance of the benefit of this thorough pulverization of the land, as well as the most striking illustration of the extent to which a suitable soil can be made to absorb ammonia from the air, is found at the Lois Weedon Vicarage. The plan there adopted by Rev. S. Smith is, to sow two rows of wheat 1 foot apart, and leave between each set of rows a strip 3 feet in width; this "fallow" strip is deeply turned with the spade in the Fall so as to bring up a part of the subsoil, which is well mixed with the upper soil, and both are then kept *constantly* fresh, by frequent working with the fork; in the ensuing Autumn the two rows of wheat are sown on this strip, and that occupied by the first two, in turn undergoes the same process of fallowing as the other; so that the strips are alternately in wheat and fallow, and only one half of the land is actually in wheat each year. The peculiarity of this plan is the thorough pulverization of the soil, and its constant exposure to the air; for not only are the fallow strips so exposed, but the surface between the rows of wheat is also kept constantly fresh by the horse-hoe; and so great is the quantity of ammonia absorbed by this intimate "mixture" of the soil and atmosphere, that Mr. Smith had, up to 1857, planted a crop of wheat for 12 successive years on the

tle and sheep, and they not of the best quality, from the interior of our own State, and even from Florida, so that our well-conditioned animals, especially if sent down by railroad or water conveyance, would there command ready sales and good prices.*

But we need not, at any rate for sometime longer, go so far for a market, since we have in our negroes an extensive demand at our very doors. And it is well for us to consider the importance of supplying at least this market if no other; for we now give our negroes (whether profitably or not is foreign to my subject) an increasing quantity of animal food, the whole of which, with the exception of a very small portion, is purchased, and must consequently be looked upon as a deduction to the full amount of its cost from the cotton crop.

That this deduction may be more fully appreciated, let us examine it by the statistics you were kind enough to furnish in the answers to my questions last summer, and for which you will please accept my thanks. These show that on 19 plantations the average is as follows: 105 negroes, of whom 39 are rated as hands, and who, with 6 mules or horses, cultivate 182 acres of cotton, $96\frac{2}{3}$ of corn, and $19\frac{1}{2}$ of potatoes, besides oats, peas, and other supernumeraries; (these I shall, for the sake of convenience in our calculations, reduce proportionably, taking 100 negroes as the basis.) The average of the products returned was as follows: Cotton on 17 of the plantations, $86\frac{1}{4}$ lbs. per acre; corn on 18 of them, $17\frac{1}{2}$ bushels; and potatoes on 16, about 96 bushels. Supposing that the crop of 1857 might make the average of the cotton too low, I took it out from several of the answers in which the crop of each year was given separately, and found that the others had been reduced by it 5 per cent. I accordingly raised the $86\frac{1}{4}$ 5 per cent. and got $90\frac{1}{2}$ lbs. as the full average per acre. I found further, through the kindness of Messrs. Mazyck, Son

same land without a particle of manure, and the last crop was very nearly if not quite as good as any of the others, the average being about 40 bushels to the (half) acre.

The soil on which this has been done is, of course, naturally very rich in mineral ingredients, and possesses the power of absorption in a remarkable degree, but the result would, so far as the ammonia is concerned, be the same, except in degree, on all soils, for they all possess a certain power of absorption which could be brought into constant activity by these or similar means.

These facts I have gathered from several essays in the Journal of the Royal Agricultural Society of England, and think they are sufficient to show that the atmosphere is an inexhaustible reservoir of ammonia as well as carbon, and that by the use of suitable crops and proper tillage we can draw from it such a supply as would render us independent of guano and other ammoniacal manures.

* In exemplification of the advantage of transporting fat stock by railroad, Caird p. 169 says, "when several

& Co., that they had in the five years, from '53 to '57 inclusive, made 286 sales of white cotton, at an average of 30.3 cents per pound. Multiply 30.3 cents by the $90\frac{1}{2}$ lbs. and we have \$28.32, or, after deducting freight, commissions, &c., say \$27, as the full average value of an acre of cotton. Now suppose we give our 100 negroes 125 lbs. of meat per week, which is much less than is given in Virginia and the upper part of our own State, it will cost us, at 10 cents per lb., \$650 or 24 acres worth of cotton each year.

From this it is evident that if these 24 acres, or about 1-7th of the whole crop, instead of being planted in cotton, could be made to produce this amount of animal food, (which I believe could very well be done,) we would, at the close of the year, be gainers to the amount of the dung made by the animals and the extra labor saved from the preparation of 1-7th of our cotton for market. We would moreover have the advantage of being subjected to the fluctuations of the cotton market alone, and not of that and the provision markets combined, a circumstance, at times, of very great importance; for, as happened in '57, when our cotton, owing to the short crop and low prices, did not bring us more than one-third the money it did the year before, we were obliged to pay unusually high prices for meat; so that we were, as it were, under a ruinous cross-fire, by which our net incomes were most seriously damaged. Thus, you perceive, it would be profitable to supply at least this home demand, should it require a reduction of as much as 1-7th of our staple crop; for our income from it would in reality still be the same, and we would be benefited in the ways we have just mentioned.

The details I have entered into hitherto may be supposed applicable only to cattle and sheep, and not to hogs, the animals most suited perhaps to our wants; but they can also be profitably raised under the proposed system, as is proved both in England and our own country. In Pennsylvania, for instance, I understand that where they are kept in pens, their dung is considered some of the very best made on the farm; in Eastern Virginia, too, where the same plan is adopted by some of the farmers, the estimate is that the manure they furnish repays the expense of feeding. And as near to us as Sum-

days were occupied in driving them to London, (from Castle Acre,) a sheep was found on the average to have lost 7 lbs. weight, and 3 lbs. inside fat, and a bullock 28 lbs. * * * On the quantity of stock annually sent out by Mr. Hudson, this loss was equivalent in value to upwards of £600 (\$3,000) a year; nearly the whole amount of which now finds its way to market as the stock are put into the trucks in the morning, and reach London in the afternoon without fatigue."

ter District, one of my old class-mates, who for several years past has raised all the bacon he requires, though regardless of the value of the manure, prefers keeping his hogs in pens a year before they are killed, considering this the most economical mode, his bacon when cured costing him only one bushel of corn for about 13 pounds, or at the rate of 8 cents per pound—corn being put at \$1.* My own experience too, though extending over only four months it is true, is, so far as it goes, in accordance with these statements. On this subject I intended to speak much more fully, but time will not permit, and we must therefore pass on to the fourth and last point under this head: the amount of labor required by the two systems.

The statistics I have already referred to, show that there are, on every plantation of 100 negroes, 37 hands and 6 mules, or counting these together as equal, 43 workers, and that these cultivate 172 acres of cotton, 90 of corn, 18 of potatoes, and, (I will add what I think an abundant allowance,) 35 of peas, oats, and the like, together 315 acres. This will give us 136 workers for 1,000 acres, or 1 for every $7\frac{1}{2}$ acres. But there were in Norfolk in 1851, on 10 farms, from which a similar estimate was made, 57 laborers (11 of whom were boys under 16) and 33 horses or yokes of oxen; together only 90 workers for 1,000 acres, or 1 for every 11 $1\text{--}9\text{th}$. By which it appears that with their system they cultivate, exclusive of their grass pastures and meadows, just 50 per cent. more land than we do, even with the help of cart boys, girls and oxen, none of which are included in the estimate of our labor. If these were also taken into the account, I have reason to believe the difference would be nearer 100 than 50 per cent.; but as my information is not so accurate as might be wished, I prefer taking 50 per cent., and being certainly within bounds.

*In his letter to me on the subject, Mr. ——— did not state this result, but gave such full details of the quantity of corn eaten, the amount of (cured) bacon made from it, &c., &c., that it was but an easy matter to make the calculation. If we take the feed of the hogs only after they are penned, this 8 cents is too high an estimate; but take this, and suppose that during the first year—when they are pigs—it is necessary to give them half as much as they require in the second, and we would have $8\frac{1}{2}$ lbs. for every bushel of corn, or 12 cents per pound, as the outside cost of the bacon. This would by many be supposed expensive, since bacon can be purchased at an average of about 10 cents; but there are several reasons which make this but little doubtful. In the first place, if the statements we have from Pennsylvania farmers and others be true, the difference of two cents will be more than repaid by the value of the manure, and the cost actually reduced to less than 10 cents. In the second place, I think, by the system I propose, (and most probably even with that we now follow,) our bacon need not cost us 12 cents worth of corn or anything else; for during four months, from September to January,

In order to appreciate this point better and answer the objection referred to it, let us suppose our land equally divided between the operations under the old and the new systems, which we shall designate respectively the "plantation" and the "farm." By calculations just made, the plantation will require 50 per cent. more labor than the farm, and if we divide our 43 workers accordingly, we shall have 25 $4\text{--}5\text{ths}$ for the plantation and 17 $1\text{--}5\text{th}$ for the farm. But these 25 $4\text{--}5\text{ths}$ workers, at our present rate of $7\frac{1}{2}$ acres each, can cultivate 189 acres, and the 17 $1\text{--}5\text{th}$ at 11 $1\text{--}9\text{th}$ will cultivate 189 more, together 378 acres, or exactly 20 per cent. more than they now do; which is the same as, or I might say even better than, if our force had been increased to that extent; an object most earnestly sought after at this very time by our whole southern country. Nor is this the only advantage growing out of such a disposition of our labor; for even supposing, as was objected, that one-half of the plantation were devoted to the production of manure for the other, not only would this half, as a farm, save us the 24 acres of cotton now required for bacon, and by its surplus products be itself a source of moneyed income equal to many more acres of cotton, but it is highly probable that the "plantation," though cut down from 315 to 189 acres, would soon produce as much, if not a great deal more, both cotton and provisions, than it had ever done before; (for it would then receive every year an abundant manuring of rich dung;) and last, though by no means least, the fertility of our soil, instead of declining, as at present, would be steadily increasing; so that we might adopt an English maxim, with the alteration of a single word, and say, "the more cattle we can feed the more *cotton* we shall make."

As to the necessary means mentioned as having been used on the Leicester estate previous to the

our hogs could be fed much more economically on sweet potatoes than if the same land were planted in corn; even supposing we overlook the fact, that if the potatoes are consumed on the ground, the droppings of the hogs will, like those of turnip-fed sheep, be a most abundant manuring, even for our poor lands; and during three months previous to September, they could be fed also more economically on Irish potatoes, half ripe oats, sugar-cane and "mutton"-corn, (in which state the stock and blades as well as the grain serves for food.) All of these, either separately or combined, I need scarcely say, are now constantly used by thrifty individuals in our own community and elsewhere, so that in the twelve months there would be but five or six during which we would be compelled to use so expensive a food as corn.

"If, therefore, we combine these two modes of reducing the price, the saving of the manure from the hogs, and the use of more economical food for them than (ripe) corn, there seems to me no doubt that we could raise our bacon at much less cost than that at which we now buy it; and we would moreover benefit our land by the operation.

introduction of gnano, I need only say that our clay is quite as near the surface as that of Norfolk generally, and is therefore as accessible to us as that was to Mr. Coke's tenants, and that in the place of the oil-cake which they were obliged to buy from Germany, we have almost identically the same substance in our cotton seed, which costs nothing.*

Thus, gentlemen, have I, in the fulfilment of my task, called your attention to the fact that our soil is deteriorating, and I have shown that it must continue to do so under its present cultivation, no matter how rich in its virgin state. I have alluded to the necessity I was under while seeking a remedy for this evil, of referring to a people who produce no cotton and whose climate is rather different from our own, but whose principles of agriculture are applicable to us notwithstanding these differences. I have also described the characteristic features of their system, and pointed out, as well as I was able, the important advantages of each. And I have labored, I hope not ineffectually, to prove that there is not one of these features essentially inapplicable to our circumstances, and that therefore there is every reason for believing that this system, with such variations as may be necessary, would produce for us the same beneficial results it has produced for England.

That the results are apparently far beyond what we would expect from the simple means proposed, I am fully aware; but in my investigations I made every effort to avoid self-deception, and therefore feel but little hesitation in saying I have argued from no facts but such as are supported by the combined testimony of agricultural science and practical experience. How far I have succeeded in impressing upon you the truth of my own opinions on this subject, and the necessity of such consideration as its importance demands, you must de-

*In the last number of the Journal of Royal Agricultural Society, received since the meeting of our Society, I find the following average composition of two samples of "cotton-cake" made (in England) from the whole seed (green cotton seed:)

Moisture	11.74
Oil.....	6.21
Albuminous compounds (flesh forming principles)..	24.28
Gum, mucilage, sugar and digestible fibre (heat producing compounds).....	33.21
Indigestible woody fibre.....	18.36
Mineral matters (ashes).....	6.15
	99.98

These analyses were made by Professor Voelcker, and I give them here not only that cotton seed may be compared with the oil-cake to which I have referred, but because I have no where else seen an analysis of anything but the *ashes* of cotton seed. It must be remembered that this was the composition after all the oil (which could be) had been pressed out.

side; for myself I shall be more than satisfied if my efforts shall induce one or more of the members of the Society to join me in trying this new system by way of experiment. I do not of course propose that they shall at once do so on the extensive scale I have used in my argument, for this may never be necessary; and in every important change it is well to remember the old maxim, "*festina lente*," especially applicable here, as we shall require time to determine more fully what are the crops and their rotation best suited to our climate, as well as what should be the relative size of our farm. But let them begin with a few acres, taken, not from the cotton, but from one of those supernumerary crops we all cultivate, and I feel satisfied that if they enter upon the work with a proper spirit, their success will not only induce them to extend these operations themselves, but will lead others to follow their example, till from one end of the parish to the other, the herds of well-fed cattle, the loaded barns and stores, and the unusual brilliancy of our golden-flowered fields, will so gladden the heart and cheer the spirits, that we shall wonder we had ever dreamed of deserting our native soil, even though it were for the teeming valleys of the West. But in all our aspirations after improvement, let us not forget that though Paul may plant and Apollos water, it is God that giveth the increase; a lesson which, if comparison were possible, would be more applicable to us than to men in any other profession.

In conclusion, gentlemen, allow me to thank you for the honor you have conferred upon me, and to say that as I have most probably been obscure in some of my calculations and arguments, I trust the members of the Society will feel themselves at liberty to ask any questions they may wish, and to discuss freely any of the points to which I have alluded, whether their experience and opinions be favorable or otherwise; for my object has been not merely to draw your attention to the means I propose for the necessary improvement of our soil, but, if possible, to convince you that they can be adopted with profit.

To PRESERVE HERBS.—All kinds of herbs should be gathered on a dry day, just before, or while they are in blossom. Tie them in bundles, and suspend them in a dry, airy place, with their blossoms downward. When perfectly dry, wrap the medicinal ones in paper, and keep them from the air. Pick off the leaves of those which are to be used for cooking, pound or rub, and sift them fine, and keep the powder in bottles, corked up tight.

Three children have recently been poisoned in Georgia by eating the flowers of the yellow jessamine.

For the Farmer and Planter.

WE PLANT TOO MUCH.

MR. EDITOR:—Inasmuch as you have solicited communications from your subscribers on the subjects of agriculture, &c., I propose to write a short article on the subject of *planting too much*; though I shall not promise you that it will be interesting to yourself or to your numerous readers; however, such as it is, it is freely at your service.

I am of the opinion, sir, that farmers, generally, are in the habit of planting too much. I feel thoroughly satisfied, from what little experience I have had in farming, that if we would plant less ground, and cultivate it better, that we would realize a much greater yield or reward for our labors; and, as a matter of course, when we labor we expect to be rewarded for our labor. In my humble opinion, the better we perform our labor, the better will we be rewarded for that labor. No one will deny that a job of work well done is worth more than one that is badly done; therefore, if we expect to receive good wages for any piece of work, let us perform that work well, and make a good job of it. It is just as easy to do a thing right as to do it wrong, even if it should require a little more time, and then the pay is so much better. I do not mean to argue though, in regard to farming, that it requires any more time to cultivate a farm well, than it does to cultivate it badly; but, on the contrary, that it requires less. My idea, or doctrine, is this: that we should plant less and cultivate better. Then, instead of having a large and very extensive area of soil to go over, every time that we work our crops, we would have our farms condensed, and consequently less time would be required to work them, and we would also be enabled to do our work better, from the fact that we would not be so tightly pushed, in order to get it done at the proper time; which is one very important item in cultivating a farm.

By planting no more land than we could cultivate with ease, and at the proper time, for the benefit of the growing crop, I believe that our lands would last longer, and that they could be kept up in a higher state of cultivation than they are according to our present system of farming.

Not a small number of us are in the habit of planting just as much ground as we could possibly cultivate, provided we were to have no hindrance of any kind whatever. When we are planting our crops we should take it into consideration, that we will necessarily be compelled to lose a great deal of time out of our farms, perhaps, on account of sickness, and several days, or even weeks, perhaps,

may be lost on account of wet weather. We should remember too, that our plows will have to be stopped, in order to harvest and secure our crops of small grain.

There are several advantages to be derived from not planting too much—one of which is, that the farmer has a great deal more time at odd seasons through the year, to devote to the repairing of his fencing, to the repairing of his buildings, and to the improvement and beautifying of his place, generally. Another considerable advantage is, that he has more time for making and hauling out manures over his farm, in order to keep up his lands; and, according to my notion of things, there is no necessity for the farmer to let his lands wear out at all, especially if they lie so as to prevent their washing away; and even that may be prevented, in a great measure, by having them properly ditched to carry off the water. By planting no more than we can *manage easily*, and by taking the necessary pains in manuring and resting our lands, I think that we might improve them every year; or at any rate, we might keep them up, so that their productive qualities would not deteriorate. In my opinion, every field on the farm ought to be cultivated just as well as we would wish to cultivate a small lot or garden. I believe it would pay. And then another thing—it is so much easier to work over a small piece of ground than a large one. And more than this—I believe that one acre of land cultivated in this manner, would yield us more produce than two acres botched over, as too many of us do in tilling our lands.

Many more things could be written on this subject, which might not be entirely uninteresting to many of your readers, but for fear I may annoy you, or weary their patience, I shall write no more at present, but subscribe myself,

Respectfully, &c.,

T. F. A.

Calhoun, July 28th, 1859.

If a person swallows any poison whatever, or has fallen into convulsions from having overloaded the stomach, an instantaneous remedy, more efficient and applicable in a larger number of cases than any half-a-dozen medicines we can now think of, is a heaping teaspoonful of common salt, and as much ground mustard, stirred rapidly in a teacupful of water, warm or cold, and swallowed instantly. It is scarcely down before it begins to come up, bringing with it the remaining contents of the stomach; and lest there be any remnant of poison, however small, let the white of an egg, or a teacupful of strong coffee, be swallowed as soon as the stomach is quiet; because these very common articles nullify a larger number of virulent poisons than any medicines in the shops.

For the Farmer and Planter.

SHEEP vs. DOGS.

MR. EDITOR:—It is said that mankind are blind to their spiritual interests, but wide-awake and alive to anything of a temporal nature, especially to such objects as those that tend to promote their welfare for the time-being.

But I think, sir, the people of South Carolina are an exception to the rule, in one particular, at least. They are absolutely blind to their temporal interests in the matter of Sheep-raising. When we reflect that the people who have all power in their own hands, will allow the present state of things to exist, and not demand of their servants in the Legislature, the enactment of a law for the more effectual protection of sheep from the ravages of hundreds of nuisances, in the shape of dogs, it is, indeed, surprising. To talk of making the owner responsible for mischief done by his dog, is all gammon. I might prove that my neighbor's dog killed one sheep, when, perhaps, he has killed fifty; but I could not prove he had killed more than one. And, sir, to men of fine sensibilities, it is anything but pleasant to litigate with a neighbor for the worth of a sheep; and, rather than attempt to obtain redress by law, he suffers the loss of his property. I tell you, sir, the only effectual remedy is a direct tax upon every dog, bitch, and pup, as soon as old enough to be taken from the mother.

I would not presume to dictate, but merely suggest what I believe was mooted in the Legislature some years ago: That each family or plantation be allowed to keep one dog, (male or female, according to fancy,) free from taxation; and pay one dollar per head on all over the number one.—This would be allowing the poor man a chance, who, as the game is nearly extinct in the larger portion of our State, needs only one good sagacious cur to guard his premises, hunt raccoons, or catch any obstinate porker that will neither toll nor drive.

Such a law would bear hard only upon those who owned nothing but dogs; as the revenue arising from it would tend to reduce the tax on other property. I have a friend who keeps six hounds for fox hunting; nevertheless, he is decidedly in favor of a tax on dogs, for, says he, "I could pay the tax on my dogs by selling mutton, if my sheep were safe from the attacks of the famished curs with which the country abounds."

It would also greatly reduce the number of dogs owned by negroes, and lazy white people, who do not make enough to feed their children. It not unfrequently happens, that one of these fellows, with a house full of children, and plenty of worthless dogs,

having no interest in agricultural improvement beyond a patch of corn and potatoes, and not caring where or how his dogs get a living, will step up to a farmer at muster, or some other public gathering, and address him with—"Is you got any wool to spare?"

In the Winter of 1849, the writer was employed to assist in taking the census for the year 1850, in one of the districts of this State, and I do not think it wide of the mark to say, that two out of every three persons (when interrogated as to the number of sheep on the farm,) would reply, "I had a good flock of sheep but the dogs destroyed them." Others would say, "It is not worth while to try to raise sheep, on account of the dogs."

The assistant marshal, to gratify his own curiosity, procured two small blank books, one of which he kept, giving me the other, with the request that I should take down the number of dogs on every farm I visited. Dogs not having a place in the government schedule, with cattle, hogs, mules, horses, &c., I would frequently forget the little dog-book in my side-pocket, and leave places without asking the number of dogs. Notwithstanding, when we finished, (if my memory is correct) there were over three thousand in the district.

That dog census, sir, served to open my eyes, and I have ever since looked upon three-fourths of them as actual nuisances—there being very little game left in this part of the country to hunt.

The public welfare loudly calls for a remedy for this evil. And with a view to awaken every reading man to a sense of its enormity, I would suggest, that in taking the census for 1860, the government allow the canine family, little, big, old, and young, "A place in the Picture."

X. V.

P. S.—I propose to all interested in sheep-husbandry throughout the State, that (as most politicians are quite *modest* and *retiring* when it comes to offering anything new to the Legislature,) petitions be gotten up, and presented through their Representatives, for a tax on dogs.

X. V.

GRINDING FEED.—"If a machine was invented to *grind* hay," says the London *Farmer*, "the ground article would approximate in value to *unground* oats in producing fat and muscle." *Chopping* hay and stalks is the process that comes nearest to grinding, and relieves the animal of just so much labor as it takes to do it. Twenty-five pounds of dry hay a day, is a good deal of work for the muscles of one pair of jaws, if they have the whole burden of its reduction to small bits and powder; this labor affects the whole system, retarding the animal's growth and rendering more food necessary to supply the waste of its tissue.—*Country Gent.*

For the Farmer and Planter.

STRAY NOTES ON THE AGRICULTURAL CAPACITIES OF SOUTH CAROLINA.

MR. EDITOR:—Have you ever cast your eye over the map of our State, with a view to determine the local isothermal lines, inasmuch as these are indicated by the various crops of the separate divisions? Having just been engaged in delineating an industrial map of the State—agricultural and mineral—I have been forcibly struck by the fact, that, inextensive as is her superficial area, when compared with the majority of States in our confederacy, there is probably no other one equally favoured by the number of distinctly marked parallels of vegetation.

But let me pause a moment, Mr. Editor, for a single parenthetical observation. Don't, I beg you, look upon me as one of those who consider it prudent to engage in pompous self-laudations for every little success, while so many far more important matters remain practically committed to oblivion. I am inviting your attention to our *natural* advantages, and prefer to see more able writers depict the manner in which these gifts of Nature are rendered available, or are abused or ignored. They themselves are the "talents" which we hold in trust, and to demand more direct attention to their peculiarities, to insist more urgently upon their value, is but another way of reminding the reader that a trust always entails high duties—duties commensurate with the importance of the trust.

But let us return to the immediate subject of discussion, and, first of all, accompany me in a flying glance at the map of our State, to lay down the chief parallels of artificial vegetation, of cultivated plants. Commencing at the sea-board, we have, first, a narrow strip of long-staple cotton region, extending from the Savannah to the Santee, and the mouth of the Pee Dee. Next, we have the rice belt, appearing farther inland, because this plant succeeds best between the upper boundary of salt water, and the upper boundary of the tidal influences upon the fresh water of the streams. This zone of vegetation stretches across the long-staple cotton region, where the latter extends inland along the southern side of the Santee, in St. Stephen's Parish, and terminates in All Saints. Above the inland boundary of the rice belt we meet with short-staple cotton, although a large portion of the region falling within its scope is too unfertile for successful cultivation, and is, at present, better adapted to the production of tar and turpentine. The short-staple cotton belt is the widest, which we can enumerate in our State, and extends far north-westward; for even in the extreme southern portion of Pickens,

some admirable cotton is still produced for the market. The western boundary, therefore, takes in a small portion of Pickens, about one-half of Greenville, and almost the whole of Spartanburg. Beyond this, some cotton is still grown for immediate household purposes, but none finds its way into the market. Corn is produced as a staple only in the upper part of the State. A line drawn north-east from the dividing line of Barnwell and Edgefield on the Savannah river, crossing the Congaree near Columbia, and striking the North Carolina line near Lynch's Creek, would exhibit, above it, the region in which corn is produced for export, and below it, that in which the entire corn crop is consumed at home. This line very nearly corresponds with the boundary of the crystalline rocks. It may be passingly mentioned, also, that above this line Irish potatoes flourish best, and below it, sweet potatoes.—The true region for the Irish potatoe is, however, that of small grain.

The lower boundary of the production of small grain for sale, divides Abbeville near the centre, embraces the larger portion of Newberry and Fairfield, the whole of Chester, and strikes the North Carolina line in Lancaster. Small grain, for home consumption, is grown south-east of this; but its successful cultivation gradually diminishes. Small grain and cotton, except where they are assisted by local advantages, rarely succeed equally well in the same parallel of temperature. The south-eastern boundary of small grain should, therefore, be identical with the north-western boundary of cotton. But it would be untrue to the actual circumstances of the case not to represent the overlapping of the one zone over the other.

Here, then, you have a rude outline sketch of the areas of our agricultural productions. And what, then, does the existence of such zones of artificial vegetation indicate? What does our ability to delineate their position with such definite precision prove? It clearly establishes the fact that Nature has endowed us with varieties of climate (and soil) of such marked differences, that, without any premeditated system of culture—without any previous inquiry into these distinguishing peculiarities, practical experiment has gradually established those boundary lines, which now separate the areas of distinct cultivation, or (to express myself more correctly in accordance with the nature of the case) rather those invisible lines had been laid down by which the successful cultivation of the distinct plants is now visibly separated.

We have seen that the variety of these zones is already considerable. We have thus been enabled

to indicate five distinct parallels. Still, these divisions, after all, appear only as the first rude crayon outlines of a portrait on a painter's canvass. The more careful pencilling, and all the colouring, has still to be attended to. The truth is, that the first crude boundaries of parallel vegetation have only been traced by our planters and farmers, and as every year adds more plants to the list of those grown in our midst, these lines will become more numerous and distinct.

This conduces us to one of the most important subjects which have of late been thrown open to discussion by some of our most efficient agricultural writers. The most important maxim of agriculture should unquestionably be to select *those plants whose peculiar adaptation to the particular region is most decided*, and not, contrary to Nature, to endeavour to force a plant in a spot whose *climate* is not fully suited to its cultivation. How common is it in our part of the world to endeavour to force chemistry to decide questions which refer to climate, (temperature and moisture) or to the mechanical constitution of the soil, or even to the topographical conformation of the surface. Chemistry is able to perform a great deal of importance in this respect—(few, indeed, concede its full value,) but it is positive folly to appeal to it for all things. If your land lies too low for convenient drainage, is the chemical composition of the soil at fault? If your soil requires greater comminution to expose all parts to atmospheric influences, or to enable the roots to penetrate in all directions with equal ease and benefit, do you expect to remedy the evil with a drug? Or, if your fields are at the top of a high mountain, and plants, which demand a gentler climate, are frozen out in the Spring, must there needs be some chemical screw loose there, also? No—*adapt your plant to the soil, and then sustain your soil in its adaptation to that plant.*

Perhaps, Mr. Editor, or you, Mr. Reader, expect that I am writing this as a prelude to a panegyric on the Agricultural Department of the Patent Office, and its endeavours to spread the cultivation of foreign plants. Let me then, at once, assure you that I have no idea of performing any such act of temerity and folly. Expensive in its maintainance, centralizing in its effects, and useless, if not, indeed, injurious, in its results—what is left to praise or commend? Its great boast, the Chinese sugar cane, as far as I can see, appears to have departed this life, or is only lingering in a few scattered fields, here and there, to the extreme regret of our negroes, who, on the whole, it is confidently asserted, prefer molasses to vinegar. However, if report speak true,

its traces are, at least, indelible. Next, there is a whole list of varieties of bearded wheat, which men can't thrash and beasts can't eat. Then we have the cork-oak, which, in the hands of one gentleman only, have I known to germinate, although I have seen numbers who have tried it. In short, and I say it with all caution, I have yet to see the first permanent agricultural benefit to result from the expensive distributions of the Patent Office. I believe that a few plants for kitchen use have succeeded, but what of that. Will some shrewd calculator estimate the cost of these seeds, or that of the publication of those invaluable pictures of squirrels and rabbits, with which we have, not long since, been entertained; or will some one, better versed in political economy than ourselves, instruct us as to the propriety of the Federal Government furnishing children with picture-books, and stuffing the mailbags with rotten seeds, when the Post Office Department is making every possible retrenchment (at the South)? But the Patent Office bait takes at the South, being agricultural; and, at the North, it serves their purpose for the depletion of the federal coffers. As it has the singular advantage of pleasing all parties, therefore, we had best let it drop, and pass on; although, from what we see by the papers, the country is soon to be flooded with a new Patent Office plant, the *tea*. The idea of introducing the cultivation of tea in a country where coffee is the only and national beverage of the kind, is too preposterous to require comment; for clearly, in the South only would the tea-plant prosper, though even with us the late frosts are probably an insuperable barrier to its cultivation. You know Johnson, the English chemist, in speaking of *the beverages we infuse*, has already remarked, with truly Anglican disregard of foreign geography, that tea is the universal beverage of the Northern States, while coffee alone is used "*throughout the South, from Georgia to Florida.*" (!) But enough of this.

Perhaps, if all things are duly considered, we stand less in need of the introduction of untried (or already condemned) foreign plants, but rather of improved plans, of more systematic methods of cultivation, by which plants, already known, already successfully tried, may be rendered more completely available, and the local characters of soil and climate may be employed in the manner in which their value is most apparent.

It is not my purpose to enter here very extensively upon this important subject, or to furnish a list of the plants, not generally cultivated, whose areas might be extended with profit. This is a flying note—not an essay.

First of all, then, we have the grape, for which, unquestionably, large portions of our State are admirably suited; and what can be more profitable than the culture of wine? Particularly adapted to this purpose, are the singular frostless plateaux of our mountains, to which a writer has recently called attention, in your monthly. I understand that Longworth, the great wine-grower, admits that our climate is far better adapted to the growth of the grape, than that of the region he was led to select from other circumstances.

Buckwheat might be grown to considerable advantage in portions of the up-country. Of flax, probably, the same might be said, although I am not aware that this plant has as yet been tried. As to whether we could attempt the growth of hemp with any great promise of success, I am ignorant. Certainly, however, the cultivation of approved grasses,* and the extensive and careful raising of stock, opens a wide field for future improvement.—Berinuda and blue grass succeed to perfection in the rich soils belonging to the belt of trappeau eruption, which traverses the State from the centre of Abbeville to the western part of Lancaster. The same may be said of the extensive scope of country bounding our mountains; and at no distant day, when a salutary change in the fence-laws has given a new impetus to our stock-raising, these two belts of country will be counted among the most productive of our State.

While on this subject let me change the current of the remarks a moment, and ask your attention to a point which has recently struck me as likely to be of some importance to horse-raisers. The constant infusion of pure race-blood into the horse of our State has diminished its average size, to an extent which renders it less suitable for those purposes where great strength is more needed than fleetness of foot. In a hot climate like ours, however, height and power, when combined with thick blood and inordinate weight, are scarcely desirable. Thus, some of the elephant-like horses of England would be useless in the heat of our mid-summer. We require, therefore, size, strength of bone and muscle, but no superfluous fat. A breed of horses which I have seen in Northern Germany, appears to meet all these requirements, fully. I allude to the Mecklenburg horse. If recollection serves me right, this animal is rarely less than seventeen hands high.—It has great breadth of chest, and admirable wind, a

powerful shoulder and rump, strong limbs, no roundness of leg-bone—in short, the frame is probably the largest ever attained by the horse, and yet, even in that far northern climate, I have never seen them carry any weight of flesh, which did not supply a corresponding amount of strength. This is the same breed of horses which was once so much sought after by the knights of old, and when it is remembered, that for that purpose a horse was needed which could exhibit activity under the weight of its own coat of mail and that of its mailed rider, some idea of their power may be conceived. For that purpose it was not uncommon to cross them upon the deep-chested but heavier Flemish mares, so well known in romance. At present they are extensively used for the heavy, broad-wheeled freight-wagons (*Frachtwagen*) of the country. I have no doubt that an infusion of the Mecklenburg blood would soon prove very advantageous with us.

But my random notes have already extended far beyond the limits I had at first assigned them, and I hasten to sign myself,

Respectfully yours,

OSCAR M. LIEBER.

Camp Geol. Sur. S. C., July 10, 1859.

GUANO.

We would invite the attention of our readers to a very sensible editorial clipped from that sterling agricultural journal, the *Southern Planter*, on Guano.

The immense investments now made by our planters in this popular fertilizer makes it very important that we should keep them fully posted up on the subject. On our exhausted soils we cannot afford to try costly experiments. Our Virginia friends have had a wider experience, and an older one, than we have, and we have every confidence in the honesty of the *Southern Planter's* judgments.—There is no journal which comes into our office freighted with more interesting material, or bearing a stronger stamp of ability and candor. Sorry its visits are not more regular.

GUANO.

Since the introduction of this fertilizer into the United States, we are inclined to believe that a majority of our farmers have paid less attention than formerly, to making and husbanding putrescent manures. In relying upon it entirely, as the means of making a crop, we are satisfied that all who have done so, have committed an error which they have probably by this time regretted. "Bought wisdom is best," and there are doubtless many agriculturists who are largely out of pocket, for the information they possess on the subject of guano, while they are inclined strongly to suspect that in this case they may have paid rather too dearly for their

* Do not, however, send for grass-seed to the Patent Office, or the return mail may possibly bring you nut-grass sprouts, warranted to thrive on the most arid soil without the least artificial encouragement.

"whistle." This is a true picture of our own case, at all events. We have for several years past been afraid of guano, for the same reason that "a burnt child dreads the fire."

From having often witnessed the almost magical effects of guano, applied to poor and sandy soils, we supposed that the use of 200 lbs. per acre amounted to an insurance against loss in a wheat crop, while the land would be left certainly improved. But having acted on this belief, we lost our crop of wheat, (in part) in consequence of "scab," and the ravages of "chinch bug," and were compelled to give up our theory, and change our practice for one more economical. We have not abandoned the use of guano entirely, nor have we relied upon it fully as a manure, except for potatoes. We find it a valuable adjunct to the ordinary manures of the farm, which may be made richer in ammonia and inorganic constituents, by the addition of a little guano and plaster combined. When we have used it for this purpose, the mode of application was to sow it lightly over the manure heap, on a wet and "drizzly day." We are satisfied that various and very different results attend the use of guano, depending not only on the modes of application, but on the soils themselves. For instance, we have seen the most profitable results of its use, on *red clay* soil. Next to this, on warm and sandy lands, while upon "grey clays," we have rarely seen *any* improvement of the land after the crop was gathered, and very often the crop itself has not been sufficiently augmented in quantity, to justify any outlay for guano.

We give our readers some of our own *opinions*, *merely*, about guano, which we beg may be understood as such only, and not on our part stated as positive facts.

1st. Guano should be used sparingly, until its effects upon, or rather adaptability to the soil, may be sufficiently apparent to free its use from any of the risk, so often attending upon "guess work."—Will it pay? should be a question to which every farmer ought to have a satisfactory reply before venturing on any experiments with high priced fertilizers, at any time; but greater than usual caution seems to be required now, since field crops have suffered so many unusual disasters, within the past four years, from accidents and enemies, hitherto not very common.

2d. "Elide Island Guano" is as good as "Peruvian;" in fact, from what we have seen and heard of its effects, we think about it, as the Irishman did of men, when being asked "if one man was not as good as another?" he replied, "Indade, I think so, and a great dale better." The crops of wheat in this vicinity, where this guano was used last Fall, are unusually promising at the present time. Some allowance must, of course, be made for the wet season, which has been favorable for the full development of the effects of every kind of guano. We have, however, heard it so highly praised by persons who have used it, that we do not rely upon the present appearance of the wheat crop, in forming our opinions of its excellence.

3d. "Ducked Guano," which is usually sold by dealers at a low price, in consequence of its condition as "damaged," we do not believe is at all in-

jured—if it has been "ducked" in salt water especially. The best crops of wheat and corn we have known to be raised on two particular farms in Henrico, have been produced by the use of "ducked guano," combined with a quantity of plaster sufficient to render the guano dry enough for sowing.

4th. The application of guano to crops of almost every kind, at the time of sowing, is cheaper and more efficacious when a drill is used in preference to the old way of sowing it broadcast.

5th. Guano, mixed with dry ashes, is much improved in value by the combination, although scientifically the two are held to be chemically incompatible. If *any* water is added at the time of mixing, the escape of the ammonia is rapid and injurious; hence both the ashes and guano should be perfectly dry at the time of mixing, and the sooner the compound is plowed under, the better. We have seen this experiment tried, with beneficial results, both as to the crop and the land.

We also invite attention to Mr. Stuart's communication, (to be found in our present number,) and solicit reports of the results of any experiments which may have been made by any of our readers, with Sombrero, Nevassa and Columbian guanoes, uncombined with others. We have had no experience with them. Of the different varieties of "Manipulated," now offered in market, we suppose the greatest difference between them to consist in the different names of the manufacturers, viz: Kettlewell, Reese, and Robinson, as they all claim to contain 8 per cent of ammonia, with from 45 to 50 per cent of phosphate of lime. Nor do we doubt that they are in their composition all that these gentlemen represent them to be. We intend to use this Spring "manipulated guano" on our tobacco crop. We have not had experience enough with these guanoes to justify us in complimenting them as highly as we have heard some farmers do, in whose judgment we had full confidence, but we can say with the utmost propriety, that these guanoes are so thoroughly prepared by machinery, as to save "sifting" and breaking lumps. They are sent to market in admirable order for farmers' use.

A new variety is just introduced to notice, called the "American guano." The published analysis of it is very unsatisfactory, as the per centage of *Sulphate and Phosphate of Lime* is given in such a way as to leave every one in the dark, as to the relative quantities of the two articles. We should prefer to know the exact proportion of the phosphate of lime inclined in the stated per centage of 71 to 17.50.

Plaster is easily procured, and at a much cheaper rate than it can be bought in any kind of guano, however largely it may figure as a constituent element thereof. We understand that analyses have been made by Dr. Maupin, of the University of Virginia, and by Major Gilham, of the Virginia Military Institute. *Why are they not published?* The high authority of these names would greatly promote the sale of the article, if reported of favorably by them. Unless they are published, we shall be governed by the legitimate inference from that fact, and abstain from its use, and from recommending it to our friends.

BENEFITS OF DROUTHS.

It may be a consolation to those who have felt the influence of the late long and protracted dry weather, to know that drouths are one of the natural causes to restore the constituents of crops, and renovate cultivated soils. The diminution of the mineral matter of cultivated soils takes place from two causes.

1st. The quantity of mineral matter carried off in crops, and not returned to the soil in manure.

2d. The mineral matter carried by rain water to the sea by means of fresh water streams.

These two causes, always in operation, and counteracted by nothing, would, in time, render the earth a barren waste, in which no verdure would quicken, and no solitary plant take root. A rational system of agriculture would obviate the first cause of sterility, by always restoring to the soil an equivalent for that which is taken off by the crops; but as this is not done in all cases, Providence has provided a way of its own, to counteract the thriftlessness of man, by instituting drouths at proper periods, to bring up from the deep parts of the earth food on which plants might feed when rains should again fall. The manner in which drouths exercise their beneficial influences is as follows: During dry weather a continual evaporation of water takes place from the surface of the earth, which is not supplied by any from the clouds. The evaporation from the surface creates a vacuum, (so far as the water is concerned,) which is at once filled by the water rising up from the subsoil of the land; the water from the subsoil is replaced from the next below, and in this manner the circulation of water in the earth is the reverse to that which takes place in wet weather. This progress to the surface, of the water in the earth, manifests itself strikingly in the drying up of springs, and of rivers and streams which are supported by springs. It is not, however, only the water which is brought to the surface of the earth, but also all that which the water holds in solution.—These substances are, salts of lime, and magnesia of potash and soda, and, indeed, whatever the subsoil or deep strata of the earth may contain. The water, on reaching the surface of the soil, is evaporated, and leaves behind the mineral salts, which I will here enumerate, viz: Lime, as air-slaked lime; magnesia, as air-slaked magnesia; phosphate of lime, or bone earth; sulphate of lime, or plaster of Paris; carbonate of potash and soda, with silicate of potash and soda, and also chloride of sodium or common salt—all indispensable to the growth and production of plants which are used for food. Pure rain water *as it falls* would dissolve but a *very* small proportion of some of these substances, but when it becomes soaked into the earth, it there becomes strongly imbued with carbonic acid from the decomposition of vegetable matter in the soil, and thus acquires the property of readily dissolving minerals on which it before could have very little influence.

I was first led to the consideration of the above subjects, by finding, on the re-examination of a soil which I analyzed three or four years ago, a larger quantity of a particular mineral substance than I at first found, as none had been applied in the meantime. The thing was difficult of explanation, until

I remembered the late long and protracted drouth. I then also remembered, that, in Zacatecas, and several other provinces in South America, soda was obtained from the bottom of ponds, which were dried in the dry, and again filled up in the rainy season. As the above explanation depended on the principles of natural philosophy, I at once instituted several experiments to prove its truth.

Into a glass cylinder was placed a small quantity of chloride of barium, in solution; this was then filled with a dry soil, and for a long time exposed to the direct rays of the sun on the surface. The soil on the surface of the cylinder was now treated with sulphuric acid, and gave a copious precipitate of sulphate of baryta.

The experiment was varied by substituting chloride of lime, sulphate of soda, and carbonate of potash, for the chloride of barium, and on the proper re-agents being applied in every instance, the presence of those substances were detected in *large* quantities on the surface of the soil in the cylinder. Here, then, was proof positive and direct, by plain experiments in chemistry and natural philosophy, of the agency, the ultimate, beneficial agency, of drouths.

We see, therefore, in this, that even those things which we look upon as evils, by Providence, are blessings in disguise, and that we should not murmur even when dry seasons afflict us, for they, too, are for our good. The early and the later rain may produce at once abundant crops, but dry weather is also a beneficial dispensation of Providence, in bringing to the surface food for future crops, which otherwise would be for ever useless. Seasonable weather is good for the present, but drouths renew the store-houses of plants in the soil, and furnish an abundant supply of nutriment for future crops.

JAMES HIGGINS,

State Agricultural Chemist of Maryland.

From the Cotton Planter and Soil.

HOG RAISING IN THE COTTON STATES.

To A. R. T.:—You ask me for hints on hog raising, what policy I pursue, in detail, and to give it through our friend, "Dr. Cloud's excellent paper." I have no reluctance in communicating anything I have to say, through Dr. Cloud's paper, yet I would give you my notions on hogology, which you and your "friends" would see. I am half inclined to think you have something in view. No matter, I give you the facts; if I differ with others, it can't be helped.

I know not where to begin at—I begin at pigs.—I have now six sows and one boar, bought from one man, six sows bought from another, and a boar expected daily. These pigs (all I keep for breeders) are well fed, with slops from the negro cook-house and from the kitchen; after the dinner is taken up, all slop and scraps, cleanings of vegetables, are put into a large boiler with the most of the bran sifted from meal, and boiled thoroughly; this is fed in troughs three times a day. Boars and sows kept separate. Sows are led to the boars as soon as nature directs. Never permit a young sow to wait a day. I have pigs from sows invariably under twelve months, some rare cases under eleven months. I never permit my young sows to carry over two to

four pigs, owing to size. When I find them getting thin (even if pigs be only four to six weeks old) I wean them off, preferring to lose pigs than young sows to be suckled down, for the pigs will be lost anyhow. I wean off all pigs at two months to ten or eleven weeks old, and prefer to do so whilst they are improving.

My sows are fed on cotton seed—two bushels to one of meal, thoroughly cooked. Cotton seed hauled to lot put in a ten feet rail pen, with a fence around to exclude all stock. So soon as pigs crack corn they are allowed a cup to a covered pen, in which I keep all day cooked meal and dry corn. I have several lots in which I keep sows and pigs to themselves, a large pasture, where dry sows run, and try to have a good pasture.

When not nursing pigs, I rely upon rotten seed entirely, and not using to one hundred head of hogs a half bushel of corn in the day. Hogs fed morning and night, so as not to scatter too many seed; the hogs will eat or go to grazing, as they prefer.

I salt freely three times a week, with salt, ashes, copperas, and sometimes saltpetre, all mixed together.


I would not keep over fifty head together, in any one pasture, and thus I must have many lots. I have now seven lots, from one acre to eighty acres.


I admit I feed liberally, but I do not use as much corn as many who do not make their own meat.

Last year I killed over 500 lbs. to the hand, and think my prospects are good for 700 this year. You ask, why I succeed? For two reasons—I see my pigs daily, see them fed, require my overseer to see my pork hogs daily, and know every day the number; and I am trying to get the hog that ranges very little, easy of keeping—believing there are hogs that will make nearly double the meat from the same pastures and same quantity of corn, in the same time. I have now about 80 pigs, farrowed between March 25th and June 2d, and I expect to kill some of them in January, when ten months old, and will expect 175 to 200 lbs., and not feed as much corn as many will who will not make the same pork before December, 1860. A pig well kept from its mother to ten months, can be made to weigh 200 lbs., easier than to get poor and “kept alive until pea field is opened,” at 18 months old. Get a thrifty breed and never let them stop growing, nor be hungry an hour. That is the only secret, true economy in hog raising.

Yours, truly,
M. W. PHILLIPS.

Edward's Depot, Miss., 7859.

 In conversation and advertisements, the compounds, horse-colt, and mare-colt, frequently occur, which might be easily avoided by substituting the word *colt* for the former, and *filly* for the latter.

 About the hardest case of frost-bitten wheat is related by the *Detroit Tribune*, of a farmer, who sold fourteen acres of wheat, the day after the June frost, for \$65. The buyer afterwards refused \$400 for it.

AGRICULTURAL JOURNALS.

We have nowhere seen the objects and influences of these works better set forth, in a few words, than in the following, from the pen of L. G. Chace, of St. Louis:

Not a people on the face of the globe understands the science of government as clearly as do the Americans. This comes of good stock, (a very important item with nations as with stock raisers,) much reading, and thought in that direction, and is commendable. I would by no means have the wisdom of the nation less, in that direction—and while agriculturists should be well-informed in political economy, they should also acquaint themselves equally with their own particular profession. There are but few tillers of the soil who do not subscribe for one or two political papers, and many take from two to five, including some other papers of even questionable nonsense. Now, I would respectfully suggest, that the farming community should, and could, afford to subscribe for an equal number, treating upon their own calling. It would very much tend to make the country worth governing well. Political journals have not led the people of this country, nor fashioned their views of political economy, but have only caused them to think and reflect upon the subject for themselves. So with journals of agriculture; their worth lies not more in the truths they teach, not more in what agriculturists draw from them, than what the journals draw from agriculturists, stirring up thoughts and ideas that would have lain forever latent, and causing people to think, and then to act. I am happy to see that a few of the leading political, scientific and literary journals of the country, devote a part of their columns to the interests of agriculture. It shows that their conductors understand and appreciate the importance of this great main trunk of the industrial pursuits. More journals should be published, devoted to agriculture, particularly in the Southern States, though if the present ones all over the country, were ten times as much patronized, their proprietors would make them worth ten times as much as they now are. The cultivators of the soil plead that they are unable to patronize them, but the truth is, they cannot afford not to. I feel a deep interest in agriculture, and am satisfied that if farmers are desirous that their sons should love their homes, and feel an interest in improving them, they must make them lovely. There is more or less taste inherent in every one, and nothing but a long drilling in slovenliness and disorder gets it out of the soul. It is those who cannot afford to read, who cannot appreciate a tasty home. No matter how humble it is, it can be cosy, a little paradise from which sons or daughters will not be in a haste to leave. Though I have not the least desire to control a single soul but my own, I do hope and trust that the young men, who are just about to commence life in the field of agriculture, will bear in mind, that a crop of manliness will always be in demand; let them make it a staple crop, as it commands a premium through life. Let the young men of the farm, of the plantation, have high aims; store their minds with practical knowledge, qualify themselves to fill any position in life, and as this country now leads the world in political, so will she in domestic economy.—*Southern Homestead.*

ROTATION OF CROPS.

Though many do not understand or investigate the principle upon which a rotation of cropping is based, few deny or question the utility of the practice. The admitted fact that various crops extract from the soils the various elements, and that certain soils contain certain elements in small quantities, which may be readily exhausted, will point out the soundness of the practice adopted by all intelligent cultivators, of changing or *rotating* the crops on the soil: that is, leaving the longest possible interval between the cultivation of crops of a similar nature on the same soil. To carry out this plan satisfactorily, the garden or farm must be divided into a stated number of compartments, corresponding with the number of seasons before any given crop will be planted again on the same lot or field.

In improved husbandry this is strictly attended to, the rotations varying with the nature of the soil and the crops raised, from three years to eight. In the garden there are so many varieties of vegetables, that the principle of rotation is often lost sight of. There is not, however, any good reason why this should be the case. Take the several prominent crops of the kitchen gardener, say for example, potatoes, beets, turnips, cabbages, parsnips, spinach, carrots, peas and beans, cucumbers, squashes and melons, tomatoes, onions, celery, and various salading plants, with a few roots which require to remain for several years in one place, such as asparagus, rhubarb, &c. These may be so grouped or divided, as to form four or six groups, to be cultivated in a four or six course rotation.—We shall suggest a four-crop rotation.

To carry out this routine, the garden is to be divided into four lots, or any multiple of four, or at least that portion to be occupied by vegetables. By observing the nature of the various esculents which comprise the garden crops, these may be classed so that several varieties of similar nature, demanding almost the same treatment and soil, may be planted in one compartment; and, during the season, as one crop matures and is removed, a different one may take its place, which may, to a certain extent, be benefitted by the routine of culture, or residue of enriching material (if any,) left by the preceeding crop. To attend to these considerations is a matter which demands a little forethought, and to those who will give the subject that attention which it merits, there will be found much interest in kitchen gardening.

It is in this regard that gardening and farming vary, if they do not differ; it is for these reasons that those who attempt to view gardening as "small farming," cannot succeed in demonstrating that it is neither more nor less than "farming on a small scale," as we have frequently heard them declare.

The gardener is never at rest; one crop out, in with manure, turn over the ground, and in with another crop; and so on throughout the season, which he opens with a hot-bed or pit, and closes with the same adjunct, which indeed is indispensable to the progressive and persevering gardener.

We do not think anything of a garden, that, in the latter part of February, or beginning of March,

has not its hot-bed for the forwarding of early plants, such as tomato, lettuce, cucumber, melon, vegetable egg, &c., with a few pots or boxes of neat annuals, which are rendered really beneficial during the season, by being advanced a step before the weather moderates sufficiently to turn them into permanent quarters.

From the Southern Homestead.

WHAT CONSTITUTES A GOOD FARMER?

G. D. Harmon thus asks and answers this important question, in a late number of the *Cotton Planter*:

If the Disposer of human events should permit this world to stand a thousand years longer, the time will surely come when every man who tills the earth will be compelled to be a good farmer or *starve to death*. This is a strong expression, but as true as it is strong. Old fogysm may continue to denounce those who labor to improve the agriculture of the South; but the time will come when their posterity will see their folly, and be *forced* to improve the soil which their ancestors butchered. The day has already come with England, France, Germany and Ireland, where agriculturists are compelled, from true necessity, to study their profession, and improve their systems of farming economy, to an extent limited only by their power to do so. If they were to pursue the course that the planters of the South are now pursuing, in less than twenty years they would either starve to death, or be forced to leave "their own, their native land."

But the question arises, what is a "good farmer?" There is much diversity of opinion on this question. Sometimes the men who run over the most land, per hand, and drag out of the soil the most money, regardless of the wear and tear of land, and team and force, are called good farmers, yea, the best farmers. But is that true? I admit it not. To do so would be equivalent to admitting that the doctor who made the most money, regardless of the lives he destroyed, was the best doctor. The one would be about as true as the other—both are utterly false.

A "good farmer," according to the best and most intelligent agriculturists of the South, is the man who *improves* his land, and the appearance of his place—improves his stock, and takes care of his force. And I think this definition of the term is correct.

No man, however intelligent on other subjects—no matter how much money he may be making *for the time being*, should be considered a "good farmer," in the strictest sense of that term, who grossly neglects the improvement of his soil, and force, and stock. No man who cultivates the hills, and permits his fields to wash into yawning gullies, and turns them out for his children to reclaim, at the cost of much labor and expense, or leave their old homes, or starve, is, to any extent whatever, a good farmer. A man who denounces agricultural improvement, and agricultural journals, totes corn in one end of his sack, and a rock in the other end to balance it, because his "daddy" done it, and cannot possibly be a "good farmer."

The sea of destruction will not be sweetened by a drop of compassion.

WHY SOWS DESTROY THEIR YOUNG.

A writer in the *Homestead* gives an article on this subject, in which he argues very conclusively that "costiveness and its accompanying evils are the main causes of sows destroying their young—and proper food is the preventive and cure." He says, and the fact is patent to thousands of pig raisers, that sows never eat their pigs when running at large, with plenty of green food, as in autumn, but with hardly any exception, sows littering early in the spring are troubled with costiveness, often very severely. This causes extreme restlessness, often almost frenzy, and the pains of labor increase it until they destroy their young or any other living thing within their power.

"Green food is the cure." If sows are confined in pens at any season, and especially in early spring, they should have a daily supply of green food for some weeks before littering. Potatoes, sugar beets, carrots, parsnips and such like, are excellent—and a half peck per day is amply sufficient. If no roots are to be had, sulphur—a tablespoonful two or three times a week—may be given in their usual food, and charcoal is also beneficial. Sows should not be moved about from pen to pen at this time, as it disturbs and irritates them—they should be put by themselves at least a month before littering, and used at all times with kindness and due attention to their comfort.

Corn and cob meal, or corn unground, is bad food alone for sows heavy with young. Sour milk, kitchen slop and vegetable food should be given with it, and for all swine it is to be preferred. In summer, with good clover pasture, pigs will do well without grain, and every farmer should provide a proper pasture for his swine.

We have before stated that sows could be prevented from destroying their young, by giving them *rum* sufficient to make them tipsy after littering. The preventive of green food would be far better for the animal, as well as of permanent benefit. Sometimes sows refuse to own their young, acting perfectly indifferent to their welfare. We have found this readily overcome by holding the sow, and allowing the pigs to suck once—after which she gave no further trouble.

CURE FOR RATTLE-SNAKE BITES.—*Eds. Northwestern Farmer*:—We often hear of deaths, here in the West, caused by the bite of the rattle-snake.—Allow me to give you a very simple but effectual remedy. Take half a teacupful of lard, melt and drink, and keep the wound well greased with lard. If the first dose does not move the bowels, repeat it, and increase the dose till it does. This is a sure remedy and always at hand. It obviates the necessity of keeping a supply of *whiskey* on hand. I have known it applied often and never have heard of its failing in a single case. D. A. HAVELAND.

Ft. Dodge, Iowa.

A FINE THOUGHT.—A French writer has said, that "to dream gloriously, you must act gloriously while you are awake; and to bring angels down to converse with you in your sleep, you must labor in the cause of virtue during the day."

DESTRUCTION OF SHEEP BY DOGS.—The assessors in Ohio, under an act of the Legislature, have endeavored to ascertain the total number of sheep killed and injured by dogs, during the year 1858.—The returns from only a few counties, have been published; but these, few as the counties are, disclose a fearful amount of slaughter. We append the returns of eleven counties, covering not more than one-eighth of the State:

Counties.	Killed.	Wounded.	Value.
Greene.....	1,269	820	\$3,104
Harrison.....	587	1,473	3,087
Delaware.....	781	555	1,026
Muskingum.....	1,206	884	3,116
Champaign.....	682	564	3,189
Lorain.....	432	156	1,219
Summit.....	820	820	2,459
Lake.....	412	100	888
Stark.....	626	719	1,879
Cuyahoga.....	783	1,112	3,293
Wayne.....	747	637	2,182
	7,054	7,860	\$25,342

Here are over 7,000 sheep killed, and nearly 8,000 injured, at a cost to the owners of over \$25,000, and all by a pack of curs utterly worthless. If the proportion holds good throughout the State, the annual loss to sheep-growers must be about \$200,000, and if all the dogs in the State were put together, they would not be worth a tenth part of that sum. We trust that the legislation under which these statistics have been gathered, will be followed up vigorously, and that some judicious measures will be taken to abate an evil of such magnitude. Other States will doubtless follow Ohio in any efficient measure she may adopt. The danger to sheep, from dogs, has, for a long time, prevented an increase in the sheep-growing interests of this country. Many men who would otherwise engage in it, are restrained from venturing, from the risk attending it, in consequence of the dog pest. If this were removed, the business of wool-raising would at once become a leading and a profitable one.—*Pittsburgh Gazette.*

MINERALS THAT WE EAT.—There is one mineral beyond all others essential to life. If we may be permitted to recall the very common phrase by which man is said to be a brick, we would indicate the propriety of speaking of phosphate of lime as a mortar which completes the edifice. The phosphate of lime cements and stiffens the gelatine of the bones. It is the so-called bone-earth, to which the bones owe their stiffness and solidity. It is the phosphate of lime which renders them capable of supporting the weight of the body, protecting the delicate organs of life, and serving as levers on which the muscles may act.—Phosphate of lime reaches us in all flesh, and in most articles of vegetable food, but especially in some of cereals. A striking illustration of the value of the phosphate of lime, as a constituent of our dietary, may be found in the fact that nearly all the nations of the earth feed either on wheat or rye, or on barley or oats, and these grains appear to be specially adapted for human use, by reason of the large quantities of phosphate of lime which they contain.

For Lice in hogs, give sulphur in meal or bran three or four times a week.

The Farmer and Planter.

COLUMBIA, S. C., SEPTEMBER, 1859.

HINTS FOR THE MONTH.

The seasons for the current year have been marked by extraordinary changes. The Winter months of January and February were mild and rainy—7 8-10 inches of rain fell during those months. During March we had 5 1-10 inches of rain. At the vernal equinox the Barometer fell to 28.8, wind blew furiously, heavy storms in the South-west, and Mercury fell from 60° to 40°, clearing off cold, wind from North-west. In April we had 1 7-10 inches of rain—in May, 2 1-10 inches: making 8 9-10 inches of rain in the Spring months. Every rain we have had since has cleared off with a north-west wind, and coolish. Hail-storms have been more frequent than we have ever known, and in some parts of the United States, where such things never occurred before, they have had frost every month in the year. The last Spring rain, May 19, was a very light one, 3-10 inches—the first Summer rain, June 2d, 1 1-10 inches, was accompanied by a fearful storm, with much thunder and lightning, doing great damage in its course. It was followed by a cold clear-off W. N. W., and a killing frost throughout the North-west, from Maine to Iowa.

No rains, save in small and isolated sections, fell, from June 2d, to July 26. We could hear of showers passing about, but nothing like a rain. During this trying drouth we have had cool nights, high winds, and the most scorching heat—the mercury rising up to 98° in the shade. We have had the winds blowing from all points of the compass during the day, and the nights now dewy as Autumn, and again as dry as mid-summer.

Under these trials we have noticed that the fields which stood the drouth best, and which bid fair to yield the best crops, are those which have been well and regularly cultivated—where the plow never stopped when its time came round. Every particle of fresh earth turned up acted as an absorbent of the moisture from the atmosphere, and every bunch of grass killed, cut off a robber.

The rains since 1st August, we take it, have been general, and although the corn crop must be lamentably short, a wonderful improvement has taken place for the better. What is to be done to meet our wants? Our border States are in not much better condition, as to the corn crop, and we should make every exertion in our power, to work out of our own trouble, at home. Sow wheat, barley, rye, or oats, among your corn and cotton, just before frost, or

sooner, if you have wet weather; sow all your lots about the barn with small grain, for Winter pasture and early feeding in the Spring; save all your wheat straw, chaff and bran—they are all good food; mow every rood of ground which will give you a stack of hay; cut down all the corn stalks that have not ears on them, and save carefully; top your corn; sow turnips until the 1st of October, on all the lots you can prepare, in drills; manure well, and sow wheat or barley between the drills, about the 1st of October. Sow turnips among cotton or corn where your soil is good.

Don't be afraid to try it because people tell you it is too late—we have seen pretty good turnips made in October; and if you only make salad for Spring use, it will be found valuable for food.

Potatoes.—Keep your patches clean by picking the bunches of grass out.

Irish Potatoes.—If you have planted a late patch, mulch it well, or keep it free from weeds, and force it onward.

Pea Vines.—Save all the peas and pea vines you can, before frost. Be particular in curing them, and put them up carefully, with a sprinkling of salt over them.

Save all your sugar cane—it will come in as an admirable adjunct, in the way of saving corn, and will pay better thus than in making molasses.

Rats.—Just now, during this sort of interregnum, when there is not much in the barns, make a furious war to the knife against these destructive robbers—leave no stone unturned, but destroy them in every possible way. Do not use arsenic or strychnine—they are too dangerous to be tampered with. Calomel, phosphorous, finely pulverized squills, mixed with a little old cheese, or a teaspoonful of carbonate of barytes, mixed with a paste of flour and molasses, scented by oil rhodium, aniseed, or some strong volatile oil—any of these will kill or drive away rats, and there is no danger of poisoning.—You cannot afford to keep rats next year, so use every means, zealously and cautiously, to get rid of them.

Cotton Picking will soon be the great work of the plantation. Of course you have your hampers all ready. Don't make your negroes carry them on their heads, from the field to the gin—it is worse than a day's picking. Have a wagon taken to the field—weigh in at noon and night—it will pay well. Planters are too careless about cotton picking. Too much sand, and dirt, and leaf, is allowed to accumulate; it injures the samples, and what is worse, injures the character of the planter, by creating a suspicion that the dirt is allowed for a make-weight.

Leaf does not affect the value of a sample as much as motes, nap, or dirt. Cotton should be picked out

before it becomes crisp; and if thrown in bulk when dry, it will have that rich, cream color, so much admired.

The pickers should not be allowed to pull off the bolls—it injures the growing stalk, and does not help the hand along a pound. Do not allow your pickers to drag their hampers along the rows—it breaks off limbs and bolls, and soils the cotton. Each one should be provided with a small sack, slung about his neck or waist, to pick in.

The closer you follow up your picking the better; never let your work get behind. Save every pound you can, while the weather is pleasant, and you will not only have a better sample, but better health, and more time for other farm work on the plantation.

Cotton Packing.—Pack your cotton as fast as you gin it—don't allow the rats to soil it, or run risks of fire. The frequency of fires among cotton bales of late, and the difficulty of getting good rope, are suggestive of the propriety of trying some new material. Various improvements in iron clasps and ties have been made, which, it is said, are cheaper and safer than rope. If a bale of cotton will not burn readily or rapidly, when bound with iron ties, it is reason enough for adopting them.

Oats.—If you want to escape the ravages of rust, sow Egyptian oats, or the black Winter oat, the last of this month.

Stock.—Salt regularly, and add ashes and soot, as the rain-grass will be apt to scour. Make the best use of your pastures, and push everything into the Winter in as good order as possible. For this purpose your green sugar cane will answer admirably.

Wheat.—If your wheat has been threshed out, sun it a little, and have it ground as soon as possible.—What you save for seed *sun well*—put it up hot, and sprinkle with strong lime, at the rate of a bushel to 50 bushels of wheat—it will protect it against the weevil.

Complete your repairs of farm buildings, for you will have very little time after this, to attend to it.

“WE PLANT TOO MUCH.”

We commend to our readers the sound, practical suggestions of T. F. A. He has “hit the nail on the head”—he has struck at the root of much bad farming, the cry of grass, poor horses, and worn-out gullied plantations of the country.

It is because we want to do too much—we want to accomplish a great deal by a sort of sleight-of-hand work. People never think that they may be “killing the goose to get the golden egg.”

We will be glad to hear from T. F. A. at any time.

That plenty should produce either covetousness or prodigality, is a perversion of Providence; and yet the generality of men are the worse for their riches.

STRAY NOTES.

We are very much indebted to Mr. LIEBER for his “Stray notes on the agricultural capacity of South Carolina.” They contain some very pungent remarks, and capital suggestions, and will doubtless be read with pleasure by our readers.

We will always be most happy to set him up in our columns.

SHEEP vs. DOGS.

We heartily second the proposition of X. V. to have a dog census taken—let us have “Tray, Blanche, and Sweet-heart,” “mongrel puppy, whelp hound, and cur of low degree,” all in the picture.—We have no doubt but the size of the canvass would startle many good people. We think “the dogs have had their day”—come let us raise the cry *Vive la monton*, and down with the dogs. X. V. has our leave to pitch into the “modest and retiring” again.

Apropos to the subject, we call attention to an extract from the *Pittsburg Gazette*, on the destruction of sheep by dogs. It is worthy of a careful perusal, and in addition to the suggestion of X. V. would it not be a wholesome provision of the next United States Census to have a column for sheep killed by dogs.

“BY THEIR FRUITS YE SHALL KNOW THEM.”

It is hardly necessary to call the attention of our readers to the very interesting address of Mr. PORCHER, at the Anniversary Meeting of that time-honored and public-spirited institution, the Black Oak Agricultural Society.

The address will be found full of good suggestions, and valuable information. It is a condensed history of the rise and progress of agricultural reform in old England, and although our soil and climate may not admit of the same improvement by the same means, the subject is well worth discussion.

Unfortunately, we have never looked at our agricultural deterioration from the proper standpoint.—The loss of fertility in our soils has been lost sight of in the aggregate increase of production. The extension of area in cultivation and the breaking in of the fertile tracts of the Southwest, together with the diversion of laborers from poor fields to rich virgin soils, has not been thought of. The proper policy is to look the danger in the face—looking at the decline per acre, in the older States, and compare it with the improvement claimed to have been effected by guano, improved implements, seeds and scientific agriculture.

A gallon of good strong lye, put in a barrel of hard water, will make it soft as rain water.

Half a cranberry bound on a corn will soon kill it.

THE MORGAN HORSE.

Owing to the growing popularity of the Morgan horses throughout the country, everything connected with this valuable breed of animals becomes a matter of interest to the farmer and planter.

We have bred here, for half a century, so exclusively to the race horse, that nearly all the stock of the country has more or less of good blood in it.—With *blood*, we have bottom and game. To cross on cold blooded, coarse animals, would be to lose all our advantages. We want a well-formed horse of good bone, muscle and bottom—a horse of good temper, good color, medium size, with metal and courage enough to dash through an army with banners, if necessary—and above all, we want a breed which will impress its own peculiarities upon its progeny. This is said to be the Morgan characteristic, and if it be so, we have no doubt but our farmers can raise as fine horses as anybody. We direct the attention of our readers to a very good sketch of the Morgan horse, clipped from the *Boston Cultivator*.

HOW WEEDS ARE PRODUCED.

Prof. Buckman, of England, has recently made some careful investigations as to the amount of seeds of weeds contained in seeds sold as clean, and we will state a few of the results obtained, as they cannot fail we think, to interest our readers. The professor found in a pint of clover-seed 7,600 weed-seeds; in a pint of cow-grass seed, 12,600; in brood-clover, 39,440; and two pints of Dutch-clover, severally, 25,560 and 70,400 weed-seeds. Supposing these samples to be sown, here were seeds enough to stock the land with weeds for many years. The farmer often goes to the cheapest market, and gets weeds for corn, and so pays exceedingly dear for what he considers a cheap bargain.

The facility with which weeds, particularly noxious pests, are disseminated, makes it a matter of more importance to guard against their introduction, than most people seem to be aware of.

A weed which no animal will eat will very soon spread over a whole neighborhood. Who has not witnessed the rapid extension of dog-fennel, dock, plantain, and thistles, within a few years past? Is it a wonder, when a stalk of dog-fennel produces 40,000, or a burdock 25,000, or a common dock nearly 2,000 seeds?

In nearly all the foreign seeds we have ever used we have found plants springing up, which we have been generally very careful to destroy at the outset. Most of the clover-seed you buy at the North is so mixed with an abominable species of plantain, that, in a few years, in spite of all your pains-taking, it will whip the clover out of the patch. Watch the weeds then—we can make good use of the natives—but the foreigners, nine times out of ten, are dangerous customers.

COTTON IS KING.

The French Government has decided that, hereafter, the premium paid for the cultivation of cotton in Algeria shall be abolished. Although the *Moniteur* states, that while 1,014,000 pounds of cotton was grown in Algeria in 1854, and 1,560,000 in 1857, and the crop of 1858 will be still larger, there seems to be but little question the experiment has proved a costly failure, and the Government regards money spent on this crop as treasure thrown away. The decree hints the Government will soon cease to buy cotton in that colony; at present it is under obligation to buy all the cotton raised there. Therefore, in a year or two, this experiment of the French will share the fate of their other costly experiments.

And so it ever will be, with every experiment based upon the forcing principle. Nature will have her own way whenever you begin to operate on a large scale. The French and the English Governments have not been slow to discover that their fancy patches were becoming very expensive luxuries, and that it would be the better policy to fall back on individual enterprise, and ease the Government out of the difficulty. Turkey has made a splendid failure—so has England—so has France; the bugger-boos have all been killed off that threatened much annoyance, and now we only have to contend with Africa and the West Indies. There is not much danger of Africa. To say nothing of the disadvantages of climate, it would take a century to make good cotton hands out of the Africans, at home.—The West Indies can make more by the cultivation of sugar, where they have slaves, and where they have not, there is no danger to be apprehended from competition.

With our dewy nights, gulf winds, and gulf vapors, warm sunshine, equable temperature, and Autumnal showers, we have the best climate in the world for cotton; and in the negro, as a "Southern Institution," we have the best motive power under the sun to grow cotton. If we only have the courage to be true to ourselves we need not fear the world.

FRAUDS IN PACKING COTTON.

We would especially direct the attention of our readers to a caustic communication on the above subject, clipped from the *Edgefield Advertiser*.

It is really lamentable that a cause for such complaints should exist. It is painful to think that planters could not be satisfied with fair crops and fine prices. We think all merchants, factors or manufacturers, who can place their finger on a planter guilty of such an imposition, are morally bound to call them to account. If, as "Justice" says, "many cases occur through the inattention on the part of owners or overseers"—so much the greater reason for putting the saddle on the right horse. Give the planter a chance to explain his position, give him a

chance to be heard in self-defence. If he be guilty, he ought to be exposed *pro bono publico*—if innocent, it is due to him to be declared so. It is a shame upon a whole district, an imputation we don't like to rest upon the State, that we fraudulently pack cotton.

The writer appeals to the Agricultural Societies to take cognizance of the evil. It is out of their reach, and we will wager a good bale that the fraudulently packed cotton can never be traced back to members of Agricultural Societies.

MR. EDITOR—If “I am not out of order,” I beg permission to call the attention of the cotton growers of South Carolina, to what I conceive to be, and is a *sad* and growing evil—involving character on the one hand, and money on the other. I allude to the improper packing and putting up of cotton. I have been a dealer in cotton for many years, almost exclusively in that product; and sold within the limits of South Carolina; and I am sorry to say that I have had to do with more cotton thus improperly put up, the past season, than I had in the *whole* of any three years of my experience. Therefore, you will perceive that the evil is a growing one.

I need not say that there is evident *wilful fraud* manifested, by the putting into cotton any foreign substance, such as sand, rocks, seed, &c.—and last, but not least, *water*—which of all, is the most objectionable, from the fact that it is the most common. The purchaser not only losing the *weight* of the water, but, to a great extent, the cotton.

Will not some or all of the various Agricultural Associations, that have been, and are being formed in the various Districts, take cognizance of this evil? Some of the States have interposed by Legislative enactment. I would much rather that the necessity should not arise here. I have but little doubt that many cases occur through inattention on the part of owners or overseers. The result in this case is the same to the purchaser; and who most generally comes to the worst conclusion in the premises.

There are many who designedly put their cotton up in this way, under the belief that the cotton cannot be traced back to them. I will say to such, they are under a misapprehension. The shipping of cotton is so perfect in system, that every bale can be traced from Liverpool back to the *planter* or the first seller. Under that impression, I have no doubt but that many are induced to persist in it. Many sellers of such cotton have been allowed to pass, for the sake of feeling, when it is traced, beyond a doubt, to their door.

I say, therefore, inasmuch as the evil is a growing one, the reputation of our State and Nation demands a relief—and right and common justice demands it. I trust that the pride of our State will never be again compromised and humiliated by the record in Liverpool or elsewhere—that a fraudulent packed bale of cotton cleared from a port in (or was produced in) the State of South Carolina. Then our proud motto will be

JUSTICE.

The best capital for young men to start with in life, is industry, good sense, courage and the fear of God. It is better than all the credit or cash that was ever raised,

For the Farmer and Planter.

EMBANKMENT OF RICE LAND.

MR. EDITOR:—The rice region is quite limited, compared to the cotton country, even in South Carolina; and the pecuniary interest of the State is just in proportion to the number of acres in which the “swamp seed” is cultivated. Your excellent journal finds its way to the barn-yard of the rice planter as certainly as to the gin-house of king cotton, and although we do not press our claims upon your notice, as *equal*, yet we have *claims*, and are tenacious of them. In the name, therefore, of the “rice lands,” I would ask permission to occupy a page or two of the *Farmer and Planter*, occasionally, with some account of our embankments, our preparation of land, our mode of culture, &c., &c., of this water-loving grass. Rice is a very hardy and robust plant; its vitality is wonderful, and it bears much ill-treatment; and fortunate is this for those who are to live by its increase. It is the most ill-used and “sinned against” plant which goes into the ground; not only is it exposed to the attacks of its great enemy, grass, unaided, but, when it is worked and watered, it would often seem as if the object was to lessen, and not to increase its productiveness. The seed is frequently placed in land unprepared for its reception, and then it is worked lightly, when the cultivation ought to be deep and thorough; and again deep, when every sod turned up is only so much injury done to the growing crop. Every observant planter has seen bushels to the acre cut off, by destroying roots, which were essential to the well-being of the plant; and, as to the use of water, in ignorant hands, crops are often so much injured, as seriously to affect the pecuniary arrangements of the proprietor.

No merchant would commit his business to the control of a clerk, whose experience would be measured by the twelve calendar months, yet, this is often the fate of a rice crop, and the consequences are such as may have been anticipated. The cultivation and management of a rice crop, under ordinary circumstances, is not difficult, but common sense and reflection must be exercised in this, as in other pursuits. It must not be forgotten, that rice is an aquatic plant, delighting and luxuriating in the bath which Nature prepares for it, in its wild and uncivilized state, and if you destroy its natural habits, and substitute the hoe for water, during a portion of its natural life, then it will require all of your care and attention, to shield it from the injuries necessarily resulting from the new position in which you have placed it. There is no mystery in planting, or working, or watering rice, but you *must* think, and *not* guess, you *must* prepare the land, you *must* consult the wants of the plant, and not trust to your preconceived opinions or your wishes; you *must* not be im-

patient, and attempt to take everything out of the hands of Nature. Like a wise physician, you must watch your patient, and see the effort made by the *vis medicatrix Natura*, to accomplish certain objects, and then endeavor, by judicious remedies, to aid "Dame Nature," but not control her. The plant sometimes requires to be depleted, in order to make it clean, and then it will look but indifferently well, and yet it is in the condition most desirable, and time and patience, without our interference, will remedy all the ills and evils we had feared and anticipated; as the French physicians would tell you, the "expectant practice" is very safe and successful, under these circumstances.

But, Mr. Editor, I will begin at the beginning, and say a few words as to the best mode of embanking land, as practiced in my neighborhood, premising that our lands consist of light, vegetable mould, resting upon blue clay, as a foundation.

Having decided to take in, or bring under cultivation, a portion of new land, walk over it at low water many times, before you commence your operations; observe its location, its inequalities, its indentures; the high spots and low places, the creeks and quagmires, the logs, and roots, and rubbish of all kinds, that lie in the track of your proposed bank, and have them all carefully removed; hoe off the marsh or rushes, and make a clear road 20 feet wide, and you will have the base of your bank ready for work. Stakes (new ones are best, because easily seen,) about 6 feet long, are now procured and placed about 50 feet apart around the base of the bank, and about 40 feet from the river; this 40 feet constitutes your margin, and is amply wide, for on light lands a wide margin is not necessarily a strong one. These stakes being all satisfactorily arranged, and the base of the bank clearly designated, remove, with axe and grubbing hoe, every root, stump and log, with great care, and then, with a spade, excavate the sod and turf, to the depth of a foot, from the track of the bank. Formerly a "centre ditch," so called from its passing through the centre of the bank, was used, but the excavation of sod and turf, to the depth named, is found equally efficient to make a tight bank, and much less troublesome and laborious. As far as I am informed, we are indebted for this improvement to the late Mr. Jordon Myrick, so advantageously known on Cooper river, as a planter and manager. The sods so removed, must be carefully put aside, for future use.

Mud is now procured from the river, not only to fill up the excavation you have made, but to raise the bank sufficiently high to exclude all tides from passing over it; the creeks are to be let alone until the bank is finished and settled, so as to have firmness and solidity, and to prevent any strain upon it,

during the ingress and egress of the water. When the bank has consistency sufficient to keep its position, we proceed to stop the creeks which are large. Posts which square about 8 inches, and 20 feet long, are brought to the creek, and driven down on each side of it, 8 feet apart. Other posts (known as caps) long enough to reach across the creek, are mortised and fitted to tenons, on the heads of the posts. A strong piece or long log is now placed at the foot of the posts, on each side of the creek, and made secure. Poles are now driven down, so as to rest against this log, and constitutes, as it were, a box. This box is then filled with mud, and the creek is, in plantation phrase, "Stopped." Repeat this process until all the creeks, except the *smallest*, is closed, and in this place a temporary trunk of small size, to be removed as soon as you have put down the trunk which is to be permanent, and which is to constitute the drain of the field. The land can now be cleared of marsh, or rushes, or wood, or anything which it is thought will impede the operative in preparing it for cultivation; it will drain and be quite dry, and the marsh, or rushes and wood, &c., will be in a condition to be burned. The process need not be hurried; indeed it had better remain, so that the land may be planted as soon as it is burned off.

The field is now in condition to receive the trunk, and the dock leading to the spot in which it is to be placed should be cut; about 7 feet wide and $4\frac{1}{2}$ deep will be sufficient. A half-moon or semi-circular bank is to be raised on the outside of the bank, in front of the place in which the trunk is to be located, so that you may not be interfered with in your work when making the bed. Twenty-five feet of your bank will be sufficient to enclose in this semi-circle, as in new land your "cut" need not be very wide—say 15 feet on top. The size of the trunk will, of necessity, depend on the extent of the field—thirty feet long, 4 feet wide, and 14 inches deep, will be quite large enough to flow and drain 20 acres. The door of the trunk ought to be fitted up with great care; no water should leak in; it should be in your power to have the field quite wet or entirely dry. The studds (all rice planters will understand us when we speak of "caps, studds, breast-work," &c., &c.) should now be driven down, and the caps placed on them, and the breast-work, sawed off to proper lengths, be at hand. The bed is now to be cut, and should go down to low-water mark; keep it quite level, which is easily done, by allowing a small quantity of water to follow you; there must be no high and low places. The next step is to drive down piles, consisting of poles about 8 feet long and three inches in diameter, in the middle of the bed, and within about 5 feet of each end of the trunk. Three rows of piles, 7 in each row, may be placed in the middle, and the same

number near the ends of the trunk. These piles should be driven as deep as they will go; the heads then to be cut off smooth and even. Four or five inches of mud is now thrown over the piles and smoothed to a level, and the trunk, if possible, floated into its resting place. The weight of the trunk will soon bring it down to the piles, and it can go no farther, and will, of necessity, remain level from one end to the other, and this is a matter of vital importance to the successful making of the crop.

The mud thrown out of the bed must now be thrown on the trunk, and the breast-work be placed, in order to keep it all as it should be. The trunk being covered up to the level of the bank, with mud, high-land dirt must be added so as to raise the surface over the trunk, at least a foot higher than the rest of the bank. This is useful, not only to allow for the settling of the bank at this spot, but also to strengthen what must otherwise be a weak spot, from its continuity having been severed to introduce the trunk.

But I fear, Mr. Editor, I have already trespassed too much upon your patience, and will reserve what I have to say upon ditching and draining, for a future number of the *Farmer and Planter*, provided always that I have your permission to do so.

Yours respectfully,

A. B. C.

For the Farmer and Planter.

STATE OF THE CROPS.

FAIRVIEW, August 6, 1859.

MR. EDITOR:—A general knowledge of the condition of the crops can only be had by collecting reports from every section of the country. This much I have latterly tried to do for Abbeville District, and am inclined to believe a truthful report will be an unfavorable one.

The wheat harvest was a good one; oats turned out badly, nearly all the bottom lands rusting the oats; cotton is now very backward, in some places good, in others poor average, and in others not half an average; and the corn is not yet entirely secure. Bottom lands, where stands could be had in the Spring, are doing finely, but may all be washed away before 1st September; some uplands producing well, and in other portions of the District, one on Savannah, and the other on Saluda River, each measuring, probably, five to eight miles square, are suffering worse than they did in the memorable year, 1845. They had a freshet on the 16th, 17th, and 18th of last May, and since then have not had a good season, the occasional showers through the Summer only scalding the tender rootlets of the plants, which run near the surface of the burning soil. The condition of many a small farmer in these sections is

deplorable. They will be compelled to buy corn for the next year, and are making no cotton to buy it with.

Abbeville District will be able to feed herself, but have no corn to export. Her cotton crops cannot be an average one. If this be the state of affairs all over South Carolina, her products will have but little weight in the agricultural balance of the world, for the next fiscal year.

Yours truly,

PERKINS, JR.

AUGUST 8th, 1859.

P. S.—The above was written Saturday morning, August 6, and at 8 P. M., of the same day, rain began to fall, which fell steadily, in a "drizzle-drozzle" manner, until Sunday, 11 A. M. This rain will be of incalculable benefit to the surrounding country, unless there comes a freshet, and you know planters must be allowed to grumble of either too much dry or too much wet weather. P. JR.

For the Farmer and Planter.

MR. EDITOR:—I have a shingle roof connecting the dwelling house and kitchen, which, from necessity, could not have much pitch. It leaks a good deal, especially the first showers after dry weather; and some of the water going over, adheres to the shingles, until it passes behind the gutter, before it drops off.

What can be done to remedy all this, at a reasonable cost? Could any cheap composition be applied, which would answer the purpose? Has any one tried tar, or tar and sand, for the above purpose? and if so, what has been the result of their experience?

Tar brought to a proper consistence with sand answers a valuable purpose to stop any leakage round a chimney, probably more permanent than lime mortar. The failure, however, with either, frequently takes place, from the house settling more than the chimney, and breaking the mortar loose; hence, care should be taken in the application, that the cement remain fast to the chimney, as it will then still continue to pass the drip over the opening, but if the cement adheres to the roof, water will pass inside, where it broke loose from the chimney, by the settling of the house.

What has become of the invention to render cotton suitable for roofing? If successful and durable, what would be the probable cost per square yard?

CHESTER.

ITEMS FOR HOUSEKEEPERS.—If your flat irons are rough, rub them with fine salt, and it will make them smooth.

OUR CORRESPONDENT "A. B. C."

We most cordially welcome you to our column. When we established the *Farmer and Planter* in Columbia, our object was to provide a medium, by which the interests of every portion of our State should be discussed. The Rice and Long-Cotton Planters most assuredly have claims upon us, and we invite them to make the *Farmer and Planter* their medium for diffusing sound and reliable information upon the culture of these and other important crops. Let all interests, from the sea-board to the mountains, be fully and fairly advocated through the *Farmer and Planter*—the only journal in the State exclusively devoted to our Agricultural, Mechanical and Domestic prosperity and happiness.

DEFERRED ARTICLES.

We have some valuable communications, which should appear in this number, but we regret that it is impossible to give them room. Among those deferred, are—

An Essay on Wheat, by D. WYATT AIKEN, which has been in our possession some time, and properly belonged to this issue; but, we candidly confess, we entirely forgot it, until too late. It is an excellent article, and shall appear in our next number.

"RIP" is an excellent writer, but we must have his real name; and as it is necessary to know who are the authors of articles that appear in our journal, we have postponed its publication, with the request that the name of the author will be disclosed to us. We print with closed doors, when requested.

We have other communications, but as they are on general subjects, we have withheld them until a "more convenient season."

For the *Farmer and Planter*.

WINTER PASTURES.

There was no rain of any consequence, in this section, from the wet spell in May until the 5th of August.

All vegetation on the ridges was beginning to wither and die, and the corn literally parched up.—The wet Winter and Spring left low-grounds in bad condition for cultivation; hence, we are making very little corn on hill or dale. If blessed with seasonable showers, we may realize something from the pea crop, and have good Fall pastures; but how can we support our stock through the Winter? What sort or kind of grain will supply the earliest and best continued grazing, throughout the Winter and Spring? Rye is the only grain used in this neighborhood, and I feel very much disposed to cry humbug; it is certainly a poor concern for grazing, on light lands. I have seen some highly manured lots supply a great quantity for soiling purposes, but would probably have done better in something else.

From a small experiment, the past season, I was favorably impressed with the Egyptian oat. The grain is white and very heavy, and grew from four to six inches taller than the black Winter oats, on the same land. If sown early, will ripen about the time of May wheat, which might be an object with some of us the coming season.

Will Mr. William Summer give us some information on the subject? Can he furnish a supply of the seed?

Would not a mixture of grains, say barley, wheat, oats, and probably some rye, make the best Winter pasture?

The idea of raising our own pork, beef, and mutton, seems true in theory, and in unison with our notions of independence, but no matter how beautiful it may appear on paper, we cannot afford to do it directly from the corn crib; it must be by sowing grain or grass, or both; some system of pasturage, where the animals can perform the labor of gathering for themselves. How would "Broomsedge" do?

AMATEUR.

THE MORGAN HORSE.

In regard to the origin of the Morgan breed of horses, all are agreed, that it is descended from a horse called "Justin Morgan," named after his owner, Mr. Justin Morgan, of Randolph, Vt. Concerning the origin and pedigree of the "Justin Morgan" there are conflicting statements, which, for the want of clear, authentic and conclusive testimony, as it now seems, must ever remain involved in some degree of doubt and uncertainty.

This is owing to the fact, that little interest was felt in the subject, until some time after the death of Mr. Morgan. Had it not been for the extraordinary quality of his stock, the question of the pedigree of "Justin Morgan" would never have been agitated. Nearly half a century passed before any effort was made to determine his origin. At the death of Mr. Morgan, the horse passed into other hands, and when it became desirable to know his pedigree, inquiry was made of Mr. Justin Morgan, Jr., son of Mr. Justin Morgan, when it was ascertained that his father left no written pedigree of the horse.

Mr. Justin Morgan, Jr., of Stockbridge, Vt., wrote a communication to the *Albany Cultivator*, in 1842, making the following statement in regard to the Morgan horse, formerly owned by his father. We do not give his statement entire, but condense therefrom what is pertinent to the point under consideration. He remarks: My father, Mr. Justin Morgan, brought said colt into Randolph, Vt., in the Summer or Autumn of 1795—then two years old—from Springfield, Mass., where my father formerly lived. Said colt was the same that has been since known as the Morgan horse.

Mr. John Morgan, of Lima, N. Y., subsequently wrote to the *Albany Cultivator*, stating that he formerly lived in Springfield, near Mr. Justin Morgan, Sr., previous to his removal to Vermont, and that the colt which he took to Vermont, as stated by Mr. Justin Morgan, Jr., was sired by a horse owned by Mr. Selah Norton, of East Hartford, Ct., called the True

Briton, or Beautiful Bay. He was kept at Springfield one season, by Mr. Justin Morgan, and two years after, I kept him two seasons. The horse was reported to have been bred by Gen. De Laney, Commander of the refugee troops on Long Island, and rode by him in the Revolution. It is said that one Smith stole the horse from the General at King's Bridge, and took him to the American army near White Plains, and sold him to Mr. Joseph Ward, of Hartford, Ct., for \$300. It was said at the time, that he was sired by the celebrated imported horse called Traveller, said to have been kept in New Jersey. Mr. Ward subsequently sold the horse to Mr. Norton, who kept him for mares.

The description of the Morgan breed answers well to the description of the stock of True Briton. His stock was bright bay, some inclining to sorrel. I have always understood Mr. Morgan kept the colt for a stud, and that his stock was celebrated.

A letter, by Mr. F. A. Weir, of Walpole, N. H., published in the *Albany Cultivator*, 1846, states, "that from my correspondence with Mr. Justin Morgan, and Mr. John Morgan, I am enabled to state the pedigree on both sides of the Morgan horse:—He was foaled in 1793, sired by True Briton or Beautiful Bay, owned by Mr. Selah Norton, of East Hartford, Ct., and then kept by Mr. John Morgan, of West Springfield, Mass. True Briton was sired by Traveller, an imported horse. The dam of the "Justin Morgan," at the time he was sired, was owned by Mr. Justin Morgan, who then resided in Springfield, Mass. She was described by Mr. John Morgan as of the Wild-air breed, of middling size, heavy chest, light bay, bushy mane and tail, hair on the legs long and smooth, and a smooth, handsome traveller. She was sired by Diamond, a thick, heavy horse, middling size, thick, heavy mane and tail, hairy legs, and a smooth traveler. Diamond was kept by Mr. Justin Morgan, at the time the dam of the Morgan horse was sired. His sire was Wild-air, known also as the Church horse. His dam was the noted imported mare, Wild-air, owned by Capt. S. Burt, Springfield, Mass. The Church horse was sired by the horse, Wild-air, imported by Mr. De Laney, of Long Island."

An attempt, notwithstanding the testimony cited, has been made, to prove that Justin Morgan descended from a Canadian sire. This was most satisfactorily refuted by Mr. Geo. Barnard, of Sherbrook, Canada East, in the *Albany Cultivator*, of 1841.

The testimony concerning the origin of the Morgan horse, as given by the Messrs. Morgan, is further corroborated by the following advertisement, from the *Hartford Courant*, April 26th, 1791, from which the following extracts are taken:

"Beautiful Bay will cover (for the benefit of the public,) for 15s. the season, cash, or grain, next Fall. . . . His sire was the imported horse Traveller, owned in New Jersey. His dam, Mr. De Laney's imported racer. Ten pounds were offered for one of his colts, when ten days old, at Lanesborough. . . . He is in his prime, in fine order, bright bay, fifteen hands high, trots and canters very light. . . . Selah Norton."

In the above advertisement, as contained in the *Courant*, it is stated that he had been kept at Springfield, which corroborates the statement of Mr. John Morgan.

In view of the testimony thus cited, relative to the origin of the sire and dam of the Morgan stock, with

its own inherent quality of truth, there seems to be little room to doubt that Justin Morgan was descended from good blood. It is easier to admit this, than to account for the superiority of his stock, in case his pedigree be denied.

The Justin Morgan was remarkable for his compactness of power, loftiness of style—characterized for spirit, vigor, tractableness, gentleness and docility, a great traveller, or, in other words, what has been denominated "an-all-day horse," though not a fast trotter or galloper, uniformly true "at a pull," would out-draw, out-walk, out-trot or out-run every horse matched against him in those days. It was remarked, that no one could fail of being struck with his peculiar points of excellence—"his oblique shoulders, light coat, fine ear, prominent, and sagacious eye, perfect head, large and expanded nostrils, strong loins, long hips, deep and well-spread chest, high withers, short pasterns, strong and sinewy limbs, with all the important muscles, far surpassing in relative vigor and size, those of any other horse, of his weight, ever seen in America."

Mr. Linsley says, the Justin Morgan died at the age of twenty-nine, not of old age, but from an injury. Until now, his limbs were smooth, clean and limber, step firm and elastic, constitution unbroken, his eye undimmed, his spirit unquenched, the ardor of his temper undamped, and his vigor unabated, though he had ever been subjected to hard work, and to the discipline of various masters.

Whatever may be said of the pedigree, or demerits of the Justin Morgan, by the advocates of rival breeds, they would be put to their trumps, if required to name a horse, whose qualities have more strikingly impressed themselves upon his descendants, or have done more to improve the horses of this country, and thereby enhance the profits of breeding, than old Justin Morgan—a horse, whose excellencies, all in all, have rarely been equalled, and, perhaps, never surpassed.

SURE CURE FOR HOG CHOLERA.—There has been given a great many sure cures for hog cholera, but the disease still rages, so that the fault must be either in the cure itself, or in its mode of application.—The importance of the subject will justify experiments, and here is another sure cure, as given by a correspondent of the *Louisville Journal*:

Pulverise and mix well: sulphur, 4 lbs., madder, 4 do., saltpetre, 2 do., black antimony, 2 do. If your hogs are sick, give to each, one tablespoonful twice a day, night and morning, until cured. As a preventive, give to each hog one tablespoonful, twice a week.

This remedy has been used extensively in our neighborhood, and in nearly every case has effected a cure. As a preventive, we think it infallible.

TO PREVENT HOG CHOLERA.—Dr. Wallace writes the *Prairie Farmer*, "Give from five to twenty grains of calomel to a hog, two or three times a week during the prevalence of the disease. I have used this remedy and have not lost a hog, while my neighbors have lost a great many."

Oat straw is the best for filling beds; should be changed once a year.

Scotch snuff, put on holes where crickets come out, will destroy them.

Horticultural and Pomological.

WILLIAM SUMMER, EDITOR.

WORK FOR THE MONTH.

The work for this month may be continued as in the last, but the seasons will be more favorable for sowing, as, with the cool nights and heavy dews, the insects are less destructive. Gardening in the South will commence. *Cabbages* sown last month will now be ready to transplant; and *Large Early York* may still be sown. Continue to sow *Turnips* at intervals, for Fall use—the *White* and *Grey Summer* is the best; for Winter use sow *White* and *Black Spanish*. Early *Beets* and *Carrots* may be sown. *Onions* may be sown, and the bulbs set out, and succeed well. *Cabbages* will require good workings. Sow *Lettuce* and *Spinach*, and rake over the ground, and it will give an abundant supply of salad for Winter use.

Roses may be layered. Make an incision by cutting below a bud, and drawing the knife half through, and splitting up for one inch; give the branch, at this point, a slight twist, and close in with a little sharp sand; bend the branch nearly upright, and top off the shoot. They will root finely by Spring.

For the Farmer and Planter.

MANURES FOR FRUIT TREES.

MR. EDITOR:—Allow me to ask you the following questions, with the hope of receiving answers:

1st. What is the best manure for the peach, pear, quince and cherry, planted on *thin*, sandy soil? 2d. What is the best time to apply it? 3d. What is the best method of putting in the ground, after the trees have been planted? Your suggestions I shall value more highly than any information I can obtain. The trees obtained from your nursery are doing finely.

Mobile, Ala.

M. C. McL.

ANSWER.—Sandy soils, from their porous nature, do not contain moisture; and to render a sandy soil more retentive, clay and ashes should be added; with this addition, it will be found admirably adapted to the peach, and with this manuring, also, well suited to the pear on the quince. For the peach, ashes will be the best application, at the rate of a peck or half bushel, scattered around each tree, in the Fall. The peach, as well as the pears on quince, will be much benefited by a dressing of stable manure, forked in about the roots; but if it is intended to apply it on a large scale, spread the manure evenly over the surface, two inches thick, and turn it under with a good turning-plow. Super-phosphate of lime would be a good application for pears, a year or two after the stable manure is applied. If your soil is

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deficient in iron, procure from the blacksmith shops, or forges, the iron dust or filings, and give each pear tree a small quantity. The fruit will be much sounder and better. The cherry delights in vegetable compost; coal dust, in any shape you can obtain it, will benefit this, as well as most fruits. The quince requires a deep, mellow soil, made rich, to produce fair, sound fruit. Add a little salt to the compost.

Preparation of Manures.—Prepare a trench two or three feet deep, and large enough to hold what manure may be wanted. In the bottom of this trench, a layer of muck, grass, leaves—anything and everything capable of being decomposed, is laid down a foot deep; on the top of this a thin layer of stable or yard manure, two or three feet deep; then another layer of muck and woods-earth; and, lastly, apply gypsum or charcoal. In this way continue to apply, as manure from the stables accumulates. The layer of muck and other substances, being always placed on top of the last layer of manure, absorbs the evaporations of the heap, and hastens the decay; and, in a few months, the whole may be turned over and mixed, and will, in a short time, be ready for use. In addition to this, it may be added, that fallen leaves, scrapings of yards, woods, wood-chips, saw-dust, ashes, the scrapings from the poultry-house and yard, all furnish valuable and necessary ingredients for all kinds of fruits—to which pour on all slops from the kitchen, soap-suds, &c.; in fact, everything decomposable, may be used to increase the manure heap.

For the Farmer and Planter.

MR. EDITOR—*Dear Sir*: I have for some time thought of writing a few of my observations on the culture and management of Fruit, but have delayed until now, waiting to see if the experiments I was trying would result in success or failure. We will take the Peach first. Some four years ago I bought a few of the above-named trees, but found they were like the rest of the stone fruits—addicted to the *bad habit* of taking (or receiving, I should have said,) the advances of a troublesome set of moths, both in root and fruit. In trying some experiments to get rid of both at one dash, I hit upon the plan of physicking them with calomel. The plan has succeeded so far. The way of administering is as follows: Either in the Spring or mid-summer, when the sap is active, or becoming so, I take a phial of the above-named medicine, and a sharp pocket-knife, and scrape the earth from around the collar, and down to the first set of roots; and if I find any sign of borers, I take them out with the knife, and take as much of the powder as I can hold on the point, and introduce it in the orifice made by the worm, then draw up the earth, and the job is finished for two years. Now for the

action. The sap being active, takes up the calomel and diffuses it through the tree, both to leaves and fruit. The moths, (if they do lay their eggs,) when hatched, cannot stand the dose, and die immediately, before any damage is done. The only dread will be (after the fruit is getting ripe) of the bees, wasps and yellow-jackets, which have been very troublesome this year upon all kinds of fruit, except apples and pears. Can none of your correspondents give us a remedy for the above? If you think this worthy of publication, "put it in," and I will, from time to time, give you some more upon the rest of the fruits, as the culture of fine fruit is my hobby.

EUREKA.

For the Farmer and Planter.

AIKEN VINE-GROWING AND HORTICULTURAL ASSOCIATION.

This association was organized on July 15th, 1858. As an interesting record to amateurs and fruit-growers, we give a list of fruits exhibited at the different meetings of the last and present seasons.

JULY 29th, 1858.

Mr. Caradeuc exhibited Temple Nectarines.—*Peaches*.—Paire de Pompone, President Free, Chinese Cling—seedling. *Pears*.—Bartletts, Bon Cretein, Belissime D'Ete, and Reinette de Canada Apple. *Plums*.—Blue Imperial, Summer Pearmain Apple.

Mr. Cornish.—*Peaches*.—Bordcaux, Lemon Cling, and seedling Orleans Plum, and Bartlett Pear.

Mr. Benson.—Isabella Grapes, Red Cheek and Heath Peaches.

Mr. Gregg.—Late Crawford Peach, Blue Imperial Plum, Pitmaston Nectarine, Seckle Pear.

Mr. Purvis.—Pace Peach, Horse Apple, Lenoir Grapes, Gracide Pears, Watermelons.

Mr. Ravenel.—*Grapes*.—Chasselas Blanc, Warren, Black July. *Peaches*.—Chinese Clings, Lemon Cling and Bordeaux.

Mr. Brooks.—Warren Grapes.

Mr. La Taste.—Catawba Grapes.

Mr. I. D. Legare.—Variety of Pears.

AUGUST 27th, 1858.

Mr. Purvis exhibited Heath Cling and seedling Peaches, Bland's Madeira Grapes, Apples.

Dr. McDonald.—Purple Malaga Grapes, Prince's Yellow Gage and Prune Plums, French Pears, 3 Varieties of Apples.

Mr. Ravenel.—*Grapes*.—Isabella, Warren, Bland's Madeira, Chasselas Blanc and Scuppernong, 13 varieties of Imphee, or African Sugar Cane.

Mr. Caradeuc.—*Pears*.—Belissime D'Ete and Bergamotte. *Apples*.—Reinette De Britagne, Jersey Greening, Reinette Grise.

Mr. Cornish.—Buffum Pear, York Pippin.

Mr. J. G. Smith.—Bland's Madeira Grapes, Peaches.

Mrs. Plunket.—Seedling Peaches, Winter Sweet Apples.

OCTOBER 7th, 1858.

Dr. McDonald.—Large Gros Jean Apples, French Pears, October Peaches, Scuppernong Grapes.

JUNE 16th, 1859.

Mr. Purvis.—*Peaches*.—Crawford's Early, Proth's Early Tillotson and Early York.

Mr. Ravenel.—Early Tillotson Peaches.

JULY 7th, 1859.

Mr. Ravenel.—*Peaches*.—Chinese Cling, Susquehannah, Oldmixon, Red Cheeks, and Large Early Yorks—Chasselas Blanc Grapes.

Dr. McDonald.—Variety of Peaches, Chasselas Blanc Grapes, Foreign Plums and Pears.

Mr. Mood.—Chinese Cling Peach—large Apples.

Mr. Berckmans.—19 varieties of Apples.

36 " " Pears; (many of the Apples and Pears not ripe.)

Mr. Berckmans.—19 varieties of Peaches.

3 " " Nectarines.

4 " " Grapes; Delaware the only variety ripe.

JULY 21.

ANNIVERSARY MEETING.

Mr. Purvis.—2 baskets Peaches, Crawford's Late and Heath Cling, Isabella Grapes, Figs, Watermelons, (34 lbs.)

Mr. Cutler.—1 basket Peaches.

Mrs. Bush.—1 doz. Apples—very fine.

Dr. McDonald.—Grapes, Chasselas Blanc, Purple Malaga, Isabella, Mary Isabel, Pauline, and Black July.

Mr. Cornish.—Bordeaux and Kennedy Peaches, Chasselas Blanc Grapes.

Mr. Woodward.—Peaches.

Mr. L. Benson.—Large basket of Peaches and Watermelons.

Mr. La Taste.—Apples and Filberts.

Mr. Ravenel.—*Peaches*, Druid Hill, Alberge—Crawford's Early, Chasselas Blanc Grapes.

Mr. Berckmans.—8 varieties of Peaches.

7 " " Pears.

10 " " Grapes.

4 " " Apples.

AUGUST 4th, 1859.

Mr. Ravenel.—*Grapes*—Isabella, Black July, Chasselas Blanc, Ward's Late Free Peaches, Celestial and large purple Figs, a phial of Syrup from Chinese Sorghum, two years old.

Mrs. Dupre.—1 cluster Zinfandel Grapes, raised in the open air—magnificent, weighing 3 lbs.

Mr. Cornish.—Isabella and Catawba Grapes, Bordeaux seedling Peach.

Mr. Caradeuc.—*Grapes*—Warren, Isabella, Catawba, Pauline, White seedling—Apples and Peaches.

Mr. Purvis.—*Grapes*—Bland's Madeira, Warren, Isabella, Chasselas Blanc, purple Figs.

Mrs. Wilkinson.—Heath Cling and Crawford's Late Peaches.

Mrs. Gregg.—Basket Tomatoes and Quince Squashes.

Mrs. Brum.—Pace Peach.

Mr. Steadman.—Catawba Grapes.

Mr. Robertson.—Catawba Grapes.

Mrs. Parkinson.—Apples.

NOTE.—Some of the varieties of Grapes exhibited at the two last meetings were not fully ripe.

For the Farmer and Planter.

MR. EDITOR:—We ask the attention of your readers to a very sensible and well-timed letter upon "New Southern Seedling Apples," from the pen of Mr. Van Buren, of Clarksville, Ga.—a gentleman every way competent to discuss the merits of Northern and Southern fruits and fruit-trees.

If a Yankee pedler had written it, or spoken it upon exhibiting some brandy-fruits or fancy pictures, it would, perhaps, take better South. We have just read in the *Valley Farmer*, a scorching article on Yankee tree-peddlers, in which they are denounced as impostors—not as agents of Northern nurseries of standing. He says, "the refuse of Eastern nurseries is generally what is sold by these same tree-peddlers. The Eastern nursery-men won't deny this themselves. They can't sell this refuse stuff at the East, and it must come West, and in this manner our farmers are duped and swindled in a most outrageous manner."

The whole back-country of South Carolina has been scoured, and orders freely given. These fellows always introduce their wares by giving you the names of distinguished pomologists and nursery-men in the South, who have bought from them—generally all lies.

MALUS.

PEAR CULTURE IN THE SOUTH.

An Essay, written at the request of the Aiken Vine-Growing Association, of South Carolina, and read before that body, on Thursday, July 7th, 1859, by L. E. BERCKMANS, of Augusta, Ga.

MR. CHAIRMAN:—By resolution of the Society, communication of which has been sent to me, June 16th, you have appointed me to prepare an "Essay on the Culture of the Pear."

The duty conferred upon me, by said resolution, should be more thankfully accepted, if I did feel myself better qualified to carry out the views of the Society. However, I think to be able to throw some light upon the subject, by the result of over thirty years experience in the fruit culture, on this and on the other side of the Atlantic, and by my almost exclusive attention given to the Pear Cultivation in the South, during the past two years.

The object of the Society in calling up the subject of the *Pear Culture*, is, undoubtedly, to discuss thor-

oughly the advantages, inconveniences, profits, and drawbacks of the cultivation of that class of fruit, in reference to its value as a market produce, and as a reliable crop among the different fruit crops.

In taking this view of the subject, our first duty must be, to divest ourselves of all prejudices, in discussing matters of public interest; and as the production of such an important class of fruits as the Pear is at the eve of assuming large proportions, I cannot but highly approve the opportunity of putting the question before the public under the sanction of your authority, with a view to open the field to impartial discussions and informations.

The culture of every comparatively new, or not sufficiently tested fruit or cereal, destined to occupy a prominent place upon our markets, and to exercise a marked influence upon the general diet of the people, is well worth the earnest consideration of the Agricultural and Horticultural Societies of the Union. It is, in case of success, a benefit conferred upon the community, and, in case of failure, heavy losses of time and money saved; for individual prejudices and hobbies, not to say anything about less worthy motives, are hard to be overcome; and were it not for such unique and far-famed institutions as the American Agricultural and Pomological Societies, the now almost cleared field of pomology should be a wilderness of confuse notions, inaccurate informations, and, worse than all that, of bitter personalities and disputations, where light and impartiality could hardly be expected to find their way.

Much as the Pomological Society has done for the selection and promotion of good fruits, we cannot expect to find among its documents sufficient information in regard to the South, where, indeed, the cultivation of the Pear is still in its infancy. Even in the North it is, and will be for some time to come, a much controverted subject—the result of which has been a general uneasiness, misgivings and doubts in regard to the probability of raising large crops of Pears; and, considering so many should have to be discussed, so many objections to be overcome, our task becomes more difficult, and our wish to be brief and concise must yield to the necessity of conveying all possible information.

To proceed in a regular and logical order, we have to indicate the principle points to be discussed in due succession, and in regard to their respective importance.

1. The first question to be examined seems to be: Is the Pear tree, as a standard or as a dwarf, suited to the South, as far as Florida and Louisiana?

2. The second is: Can it be cultivated with profit to a certain extent?

3. Third: Is it durable, and not more exposed to diseases than other products?

4. Fourth: Can we expect to sell the crops with prospects of regular profits? Then, what varieties and seasons are to be selected for the market?

5. What soils and aspects, local conditions, manures and treatment, are the best to insure a successful cultivation of the Pear?

If I am not mistaken, these must be the main points to be examined in making up an essay—not a treatise. Around those main questions other remarks will occasionally find place.

It must be well understood that the Pear tree is, all things considered, of a more refined, and, consequently, of a more delicate and weak constitution than the apple, peach, and the cherry—the improved

Pear tree of our modern times is so far removed from the original wild parent, found in the forests of the old continent, as to be altogether a different thing, and hardly bearing any likeness to that original wild type. Long since have I supposed that this may be the cause of its weaker and more refined habits; for, we all know that the more we make plants and trees recede from their original type, the more they become delicate and subject to various diseases. This law of Nature is universal, and in accordance to it, the more refined is the fruit, the flower or the foliage, the more delicate will be the plant. This rule admits of but few exceptions.

But let the cause be what it may, it is a generally acknowledged fact, that the Pear tree is more fastidious, less hardy, and requires a better management than most all other fruit trees. It succeeds, however, where almost any fruit tree of the temperate zone do succeed, and it seems rather to be suited to a more Southern latitude than to the Northern States. More Pear trees are killed by the mediate or immediate effects of the severe frosts of the North than by any other cause acting farther South. The blight, almost the only fatal disease inherent to the Pear tree, is not worse here than in any other part of the Union, whilst the ravages of intense cold Winters are never witnessed here.

That the Pear tree seems to feel better at home this side of Mason and Dickson's line, is proved to me by three facts, which I have closely observed during the last three years.

The first remark is, that weak and out-worn varieties, only fitted for *Espaliers* in their native climate, and but ill-adapted to the severe Winters of the North, are in fine condition here in Georgia.

The other fact is, that some European varieties, although very new or of recent origin, will not do in the North, while they recover all their native strength and beauty here.

The third remark applies to the size and quality of the fruit, which, in most all cases, is superior in the South, to what I have ever witnessed it to be in other parts. My seedlings show their propensities or character sooner; their maturity is promoted in less time; their foliage is often double the size of what I found it to be in the North, especially many of the inedited but most prominent seedlings of Van Mons and Dr. Brinekle.

In regard to the Southern limits to be assigned to the Pear, I have not heard of a climate where it did not grow. I had occasion to unpack and to plant the Pear trees sent to our worthy Pomologist, Dr. Brinekle, in Philadelphia, as varieties from Brazil, Peru and Mexico; they were esteemed there as fine fruits, but they only proved to be inferior varieties of the old catalogues when growing here. This is another conclusive fact in regard to the adaptiveness of the Pear to the very lowest latitude, as the same result took place in that instance, to wit: the improvement of an inferior sort to a fruit of good quality. To quote a few facts, I will state that the Bartlett is decidedly better here than in New York or Pennsylvania; that the White Doyenne is more hardy, more certain, and rather too rich; the Flemish Beauty, the Pratt, the Buffum, the Van Assche, are larger and better here than in the North. So with most all the Pears I had occasion to test in Georgia and South Carolina, by the exception of the old Winter Pears.

Varieties of doubtful quality in the North, as the Parfum Aout, Fondante de Septembre, Bellissime

D'Ete, Belle de Bruxelles, which I found to be of uncertain or of second quality in Boston, New York and New Jersey, are almost of first quality in my grounds in Georgia. So much for the influence of a Southern temperature upon the Pear. And, as for the so much dreaded action of the Southern sun upon the bark, let me remark, that I found it not to be so prejudicial as it is commonly thought to be. I have planted all sorts of trees, and some with highly denuded bodies; I have not found any of them to suffer from that cause. The only pernicious effects in such cases, is owing to the rash process of suddenly removing the protecting limbs from a fruit-tree, when the body has not been exposed and inured, from its early youth, to the South-western rays of the sun.

That the Pear tree will and must succeed upon the quince stock, I have most satisfactory and convincing proofs—provided the quince stock be not exposed to the air and sun. As a tree or a bush, the quince tree is not so weak—it is then complete in its organism; but checked and deprived of its organic structure, it becomes feeble and liable to diseases.—When the quince stock, below the bud, is destroyed by worms, it is owing to one of the following causes:

1. Unfitness of the budded variety to grow well upon the quince stock. (We have many of these.)
2. Exposure of stock, or too deep planting.
3. Excess of moisture or want of proper food in the soil.

4. The vicinity or presence of old decayed wood, roots or sticks, carelessly dug in with the tree when planted.

In all these cases it is sickness, either inherent or accidental. Once fairly started, there is no more danger for the dwarfed tree.

And now we must examine the much controverted subject: Can the Pear be grown with profit?

This is rather a complicated question, and I do not know how to answer it as briefly as I should wish to do. As far as my personal conviction is concerned, I have no hesitation in replying in the affirmative, provided we stick to the following rules:

1. The selection of a proper soil. All soils are not suited to the Pear tree.
2. A locality sufficiently free from excessive moisture, and rather rolling than too level and flat.
3. The judicious and careful selection of hardy, handsome, productive, and good varieties, selling not only as good, but also as fair and inviting fruit.
4. The selection of stock. Some Pears, if not all, growing upon the quince, are better upon that stock than upon the free or wild Pear stock. No Pears are, nor were ever, good upon the Hawthorne, Amelanchier, Mountain Ash, &c. We have tried that twenty years ago, and never succeeded in producing any good fruit, although we made trees grow finely for the first two or three years.
5. The proper attention and care bestowed to the tree, which must be more than that given to the apple, peach or plum. Next to the grape, the Pear requires the greatest attention and skill. It is not everybody's business to raise handsome fruit, and to form trees, which, in a season of abundance, will have their fruit so equally set and distributed all over the tree as not to split and break the limbs, as is so often the case.

Let us remark, that the greatest care is only needed when the tree is very young. After it is once well shaped, and sets to bearing, it sends out less rank wood, and takes better form and habits.

It would take more words than I can compress in an essay to lay down the rules of judicious pruning, without which there is no future for the Pear Tree, at least in most cases, and among the most refined sorts. We must confine ourselves to a few remarks upon the profits and the choice of varieties suited to the market. In the vicinity of Boston, for instance, most handsome profits are realized from the Pear crops. Although, judging from the quantity of Pears grown around that city, we should deem the market to be overstocked; still, Pears sell in Boston from 50 cents to over \$4 a dozen. Some cities, as Philadelphia, have only a few inferior Pears in the market, and would pay any price if they could get these in some quantity. Two years ago, the editor of the *Horticulturist* wrote me: "Much is written about Pears, but we cannot buy any in our Philadelphia market—please let me have some, for love, for begging, or for money." In fact, the Pear is considered such an aristocratic fruit, (if I may use that term,) that those who grow them keep them for their own family, friends and visitors, as one of the finest luxuries. I have seen as much as \$6 paid for a dozen of handsome pears in Boston, (in December). No party is fashionable among amateurs without at least one fine dish of Pears. Messrs. Hovey, Austin, and many others, sell Pears in large quantities, with very handsome returns. From New Jersey, Western and Northwestern New York, large quantities are sent to New York city. Col. John Hebron, in Mississippi, makes his Pear trees pay, and over. And when we consider that Pears, *to be good*, must be picked a few days before ripe, it seems just the article for transportation to distant markets. I have no doubt I can pick fine full-grown Bartletts, pack them in barrels, send them to New York, or Quebec, or Havana, and when they will be at the port of destination, and leisurely unpacked, they will just be in the very best condition to go to the market or to the table. In regard to the facility and security for, and the very improvement of the fruit *by* transportation, no other fruit can compare with the Pear, not even Oranges and Lemons—the Pear and some Apples being the only fruit which *requires* picking from six to eight days before maturing, to bring it up to its true quality. To make a Pear orchard pay, we need only the necessary skill and care, a well cultivated soil, and a climate where the bud is not exposed to be killed by 20 degrees below 0, or by the uncertain springs of the North. We have not to care about markets—for such fruit they are everywhere, because it bears, and rather demands transportation.

Let those who have the means, time, skill, and a little patience, try the experiment. They will find out that a well planted and well directed Pear tree comes into bearing sooner than an Apple, and almost as soon as a Peach tree—that in this climate the crops are more regular and certain—that the Pear tree can be considered as an annual bearer, while Apples are not, and Peaches are very uncertain.—The season of blossoming for the hundreds of varieties of Pears is so protracted, that only a score out of a hundred will be in blossom when a spring frost sets in, and the others will either have set their fruit or be dormant, and, consequently, out of danger, with an ordinary slight spring frost. I have reasons to consider the blossoms of a Pear tree more hardy than that of a Peach or Apricot. Few worms attack the Pear—the rot, the oidium and the curculio are strangers to it.

But is a Pear tree lasting? I have seen many a Pear tree over a century old, and with proper care and management it will last as long as any other fruit tree. As I stated before, the diseases are mostly confined to the blight, which affects some varieties more than others—the old varieties more than the new ones. We can, in the actual state of science, not even indicate a remedy, but we cannot ascertain the origin and cause (or causes) which produce that troublesome disease. All I have been able to do is, to direct my attention and studies to the wood, foliage, and general characters which seem to render a given variety more liable to the disease. The class of Bartlett foliage and bark seems to be the most exposed, as I remark in the very seedlings bearing those characters. So is the Glout Morceau and the Vicar—notwithstanding that the bark and foliage are very distinct in the three varieties. To prevent the disease in old trees is impossible—for young trees there is a better chance—close watching and pruning, the prompt removal of the diseased wood, longitudinal incisions when the appearance of the bark is not sound, a good supply of special *wood forming* manures, are the best means, if not to prevent the blight altogether, at least to stop its further progress, and, in most cases, the *tree* can be saved.

We have, it is true, a diminutive borer, which sets in just above a bud or a spur, and working down a few inches, circles or girdles the wood from inside out, and destroys part of a limb in growing, or the body in very small trees. But this insect is scarce, and only injures part of the wood or unsound trees. I found it most active in some shrubs, as the Spireas, Deutsias, Seryngos, and chiefly in the Lagerstromia. Among thousands of young Pear trees in my grounds, perhaps not fifty have suffered from that insect, and those were only partly injured. The blight will be found the worst in rich bottom soils, where the tree takes up too much ammonia instead of the proper constituents of the wood and organs of the tree—those are ashes, lime, phosphate, iron, silicates, plaster or gypsum. Those substances, with the carbon of the atmosphere, form the proper basis and food of all trees. Ammonia and nitrogen, promoting a too luxuriant growth and porosity of the bark, seem, also, to promote the blight. I have been told by Mr. Downing, that seasons have been witnessed at the North when at least every tenth Pear tree was destroyed or injured by the blight. Still, Pear-growers have not been discouraged; and, indeed, it never has proved a disease as fatal and destructive as the borers, the yellows, the black-knot, and the ravages of the curculio, from which the Pear tree is altogether free. Thousands of Apple, Peach and Plum trees are destroyed by these evil causes, and their crops rendered very uncertain, if not complete failures. This tells much in favor of the Pear tree.

The best season to bring Pears into the market would seem to be from the months of September to December, (Winter Pears being better suited for amateurs, as requiring too much watching and extra care,) then the Peach is scarce, the Plums and Figs are gone, and the Winter Apple has not yet taken its place in the market. This remark applies to our home markets. For the markets of the North the very earliest Pears are the best.

I have partly answered the question of soils and localities. I shall only add, that deep, sandy loam soils, rather dark than light colored, Western, Eastern and Northern aspects, and rather elevated local-

ities, seem to be the best for the health of the tree and the setting of the blossom; and that Southern latitudes agree better with the Pear than higher latitudes, where often Winters from twenty to thirty degrees below zero prevent all reliance upon a fair crop of refined fruits, such as Pears, Peaches and Grapes.

I shall not see the time when the South, from Virginia to Alabama, shall be considered the fruit-garden of America, but I am fully convinced that such a time must and shall come, and that thousands of acres, unfit for cultivation of cotton and rice, will be converted into remunerating orchards.

All we want is a little patience—a rare thing with a fast people. We must consider that fruit-trees are different from sweet potatoes, although they do not require more, if as much care, and that the planting of rows of fruit-trees in the field, at convenient distances, will not materially interfere with the crops of potatoes, cow peas or vegetables, or any low growing crops that will not smother the young trees. If, moreover, we consider that soils exhausted for ordinary crops still do retain a great deal of the constituents required for a tree, it will be evident that fruit can often be obtained where other products must fail.

We have yet to find out what sorts of Pears are best suited to our Southern latitude. Every season, almost, brings us new Peaches, Grapes, Pears and Apples, superior to the older varieties, which will slowly work their way to the head of the list of prominent fruits. Among the native and foreign varieties, many have been found to be well adapted to our climate. We have a great deal more in expectation, and among my select seedlings, collected from this and distant countries, many give fair promise of being ranked, at some future day, among our best, and certainly our most hardy and vigorous varieties.

Permit me to conclude this already too long chapter on Pears, with some remarks upon the different opinions about this fruit.

The mistakes and deceptions which have so often occurred, and have discouraged many zealous amateurs, are mostly the result of unwise selections of old, worn-out varieties, discarded and given up in their native localities, and sold here, not as refuse and unseasonable stock, but under good sounding or false names, and which must have proven, as they did prove, indeed, dead failures. The newly obtained varieties are, undoubtedly, (and with some few exceptions) the most vigorous, symmetrical and hardy. Of all the Pears cultivated at present as leading varieties, a few only can be traced as far back as Duhamel, or even Poiteau, (editions from 1785 to 1810). The Duchess, the Beurre Superfin, the Beurre D'Anjou, the Belle Lucrative, the Clairgeau, and many others of our best leading sorts, were not known 25 years ago. I have hundreds of seedlings, selected from among thousands, with which I would not part for any consideration, so sure do I feel that some day they must take the place of such varieties as I do not consider as perfectly adapted to our latitude or to our wants. We must have hardy, beautiful, vigorous, productive trees, easily cultivated in all soils, and more easily kept in the right form and shape, with good, or best, and large fruit. What the last twenty or thirty years of experiments or good chances have done in that way, will be nothing compared to what is at present going on in our great Union. Seedlings are brought to notice every season from Maine to Alabama.

It has been my good fortune to be connected with many influential and well informed gentlemen, and thus to have got a chance to test most all the novelties here in the South, at the same time that they are submitted to the judgment of amateurs in other parts of the Union. Let us not judge the *Cultivation of the Pear* by the worthless varieties which have induced people to say, Pears will not do in ——— (no matter what State); it was the same in all States. When I first became acquainted in New Jersey, I was told "Pears would not do well just there," and now Professor Mapes, Doctor Ward, William Reid, and many others, realize handsome profits, and have fine, almost certain crops every year. And why? Because they wisely discarded the old, sickly, and run-out varieties of the old catalogues, when Pear culture was in its infancy, and took to the new sorts endowed with all the vigor, beauty and fertility of renovated products.

I have thus far spoken of the Pear tree as a producer, in competition with the other fruit-producing trees of our latitude; but if we come from the orchard to the garden, we will find the Pear tree the most indispensable, ornamental and convenient tree to be placed around dwellings and among our flowers and shrubbery. What is equal in beauty to a well managed and sound Bartlett, Superfin, Michel Archangel, Buffum or Urbaniste?

But we must conclude, and we will do so with a wish that more effectual and persevering efforts should be directed to that branch of rural economy. In a climate, and with such a soil as ours, we must have the best Pears, as we have already the best Peaches and Grapes, to say nothing of our delicious Apples. We have the choice of localities, plenty of room, and the means to try experiments. We shall not remain behind, when all the North, much less favored by nature and climate, is fully alive to the importance of this question.

From the American Farmer.

NEW SOUTHERN SEEDLING APPLES.

CLARKSVILLE, GA., May 11, 1859.

MESSRS. EDITORS:—According to your request, and my promise, I send you descriptions of a few of our Southern Seedling Apples. I have selected such as are not described by Downing, or any one else, and have confined these descriptions to Winter varieties alone. Should you think these would interest the readers of your magazine, I will send you descriptions of another lot, together with some of our Southern peaches, pears, &c., as I have a good stock on hand.

Cullawhee.—Probably the largest apple known. I have seen specimens measuring twenty-one inches in circumference. It is a seedling from the *Buff*, resembling a huge pomegranate in appearance, being much ribbed, with the calyx slightly sunk; stem, short and fleshy; color, yellow striped and spotted with bright red; ripens in November, and keeps until February; flesh rather coarse and acid; second quality. A native of North Carolina.

Blackshear.—A native of Laurens county, Georgia. Fruit large, oblate in form; color, yellow ground, faintly striped with red; flesh yellow, pleasantly acid; ripens in October, and keeps until January and February; quality very good, nearly best.

Kentucky Streak.—A native of Kentucky, and disseminated in Georgia by Hiram Bradford, Esq., of Brownsville, Tennessee. In size it is from medium

to large; oblate in form; of a dull-green color, striped with dark red; ripens in November, and keeps until February and March. It is the earliest bearer we know of, usually producing a few specimens the second year from the graft. It is altogether a desirable variety. Tree very vigorous and hardy.

Mattauga.—A native of North Carolina. Size large; form globular; color, dark red; cavity large and deep; stem fleshy, and surrounded by a large patch of russet; flesh, white and pleasant acid: ripens in November, and keeps until January.

Kittageskee.—Another native of North Carolina.—Size, medium; color, golden yellow; a little conical in form; pleasant acid; ripens in November, keeps until March and April; quality best.

Chestoa, or Rabbit's Head.—An oblong conical formed apple; first-rate keeper; color, bright red; flesh yellow; pleasant acid and quite aromatic.—Tree vigorous, and a desirable variety for cultivation; size, medium to large.

Tillaquah, or Big Fruit.—Size, very large; nearly globular in shape; color, yellow ground, nearly covered with a marbling of dark red; flesh yellow, juicy, and very pleasant flavor; ripens in October and November, keeps until December and January; quality best. Tree vigorous.

Yahoola.—A native of Lumpkin county, Ga., found growing on the bank of a gold pit. Size, medium to large; color, greenish-yellow, striped with red; conical in form; of a pleasant acid; hangs well upon the tree, and keeps until January and February.—Tree thrifty and of a straggling habit.

Eluskee.—Oblong and conical in form; of a dark red color, nearly black; very hard and solid, when taken from the tree in November; will keep until June; rather too acid to be first-rate; tree hardy and thrifty.

Horn.—A native of Monroe county, Ga. Size, medium; quite oblate in form; color, bright green and glossy, with a red cheek; hard as a billiard ball, and will keep eternally; of good, juicy flavor, and every way desirable; tree as hardy as a horse-apple, but rather a slower grower; quality nearly best.

Sauta.—A native of Habersham county, Ga. Size, medium to large; form globular; color, bright yellow; flesh white, and too acid to be first-rate; ripens in November, and will keep sound a year; second or third-rate as to quality.

Cottugajah, or Raw Bread.—A native of North Carolina. Size large, nearly globular in form, a good deal ribbed: flesh yellowish, of fine flavor; ripens in November, and keeps until January and February; tree vigorous, and a good grower; color, pale yellow; worthy of cultivation.

Lever.—A native of South Carolina; resembles the above variety in appearance very much, and may prove identical with it; we are, however, not prepared to speak positively, until further trial.

J. VAN BUREN.

Why is the guinea so called? Because the gold with which it was first coined, in the reign of Charles II., was brought from Guinea. For this reason also, the guinea originally bore the impression of an elephant.

The term *sovereign* is not new in English coinage. In the time of Edward VI. there were both sovereigns and half-sovereigns, and nobles, as appropriate attendants on the sovereign.

From the Prairie Farmer.

CELERY FOR THE MILLION.

There are probably many lovers of celery who are deterred from the culture of it by the fact that generally a large amount of skill and labor is necessary to produce a good article. The fact that the proper time for the care of celery comes in the most busy season of the year, will account for the scarcity of this fine relish among farmers, and even those who would be glad to cultivate it if they could.

We have a little experience in raising celery which may not be new to some of your readers, and may be of value to others. In the Spring of 1858, we planted a large bed of celery in moist alluvial ground, for the purpose of raising plants for transplanting. Not using more than half of the plants, the rest remained in the bed and grew luxuriantly without farther attention. Late in the Fall we removed the celery to the house, and buried it in layers in a bed of fine sand, covering all but the tips of the leaves. As the weather grew cold we piled hay over the bed until the hay was three feet thick. In December we commenced to use this celery which was then bleached about half way up the stalk. We continued to use it freely from that time, it being better bleached at each opening of the bed. Early in the Spring it was bleached beautifully. Although we had numerous strangers at our table, nearly every one has remarked on the fineness of our celery. It was always crisp and tender, preserving its freshness throughout.—One fact we noticed in particular, that the last dish of celery was served on the same day with the first dish of asparagus, viz: the 7th of May. It may easily be seen from this that every one who wishes may, by a small expense of labor, provide himself with the luxury of celery during the Spring months. Though for Summer and Fall use I know of no better way to procure it than by the usual method of bleaching it as it grows, which is best accomplished with us, by setting the young plants in trenches about a foot deep, and filling up the earth around the plants as they grow. Celery is naturally a water plant, and therefore thrives best on a moist soil.

Yours, &c.,

K.

Cook County, Ill.

Words and grammar seem to be very variable.—The Christian Inquirer says: "The word 'fast' is as great a contradiction as we have in the language. The North River is *fast* when the ice is immovable, and then the ice disappeared very *fast*, for it was loose. A clock is called *fast* when it is quicker than time; but a man is told to stand *fast*, when he is desired to remain stationary. People *fast* when they have nothing to eat, and eat *fast*, consequently, when opportunity offers."

PIGS AND PIG TROUGHS.—W. J. Pettee says, in the *Boston Cultivator*: "If pigs are troublesome, by getting into the trough, and thus rendering their food unpalatable, a remedy is found in nailing slats an inch wide across the trough, leaving a space of from four to six inches, according to the size of the animal. This will be found to have the desired effect, and also will do away with the crowding and fighting so common among pigs when eating."

A Western editor thinks Hiram Powers, the sculptor, is a swindler, because he chiselled an unfortunate Greek girl out of a block of marble.

Domestic Economy, Recipes, &c.

FOR SORE THROAT.—Take one gill of warm water, and the same of sweet-milk, mix together, and sweeten very sweet with crush sugar. Gargle the throat often, and a speedy cure follows.

CUCUMBERS, TO PICKLE.—Put the cucumbers into salt and water, for three days, then seald them with weak vinegar, and let them remain three days longer. Seald some strong pickling vinegar, with a few onions, black pepper, allspice, cloves, ginger-root, and horse-radish; pour the whole over the cucumbers, and keep them in jars for use. *Gerkins*, which are small cucumbers, are pickled in the same way.

CUCUMBERS, PRESERVED.—Pare thinly the cucumbers; cut them in two, lengthwise, and take out the seeds; lay them in cold salt and water for twenty-four hours; then wash them and lay them in alum water for twenty-four hours longer, when they are to be taken out and drained. To each pound of cucumbers take a pound of sugar, of which make a syrup, by putting a teacupful of water to each pound of sugar. Skim it well, put in the cucumbers, and boil slowly till they are quite clear; take them out, lay them on a dish, and continue to boil the syrup till it is thick, adding the juice of two lemons and two raees of ginger. Put the cucumbers into jars, and pour the syrup over them. Let the jars be kept airtight.

CUCUMBERS LIKE PRESERVED GINGER.—Divide the cucumbers into halves, lengthwise, and take out the seeds. Soak them for three days in brine; then wash them in cold water, and set them over the fire in plenty of fresh water. As soon as they boil, take them off, drain them, and set them over the fire again, in plenty of another water; let them come to the boil a second time, and change the water; but this time add a small lump, the size of a hazel nut, of bicarbonate of potash. Let them boil for half an hour, and stand all night in the water to cool. Next morning put them on a seive to drain. Bruise in a mortar half a pound or more of the best and freshest ginger, which put into two quarts of water, with an ounce of cloves, and a stick of cinnamon. Set it on the fire, and let it boil till the water is thoroughly impregnated with the ginger. Strain the liquor through a jelly-bag, and to every pint put a pound and a quarter of pounded loaf sugar. Clarify this syrup with the white of eggs; and as soon as it has boiled up, and been well skimmed, lay the cucumbers into it, together with all the pieces of ginger that had been boiled; and after boiling ten minutes, put the whole into a jar, and let it stand two days.—Drain off the syrup, boil it up again, and boil the cucumbers and ginger ten minutes. Put all back in the jar; and after standing three days, put the syrup and ginger into the pan again, and boil till the syrup adheres to the spoon. Then put in the cucumbers, let them boil a quarter of an hour, and return the whole to the jar, which must stand uncovered twenty-four hours, and then be covered with bladder and white paper.

CUCUMBER SALAD.—Pare the cucumbers, and as you slice them score the ends, that they may be in small bits, as if slightly chopped. Add some small young onions, also cut small, cayenne pepper, salt, a little ginger, the juice of half a lemon, and some vinegar. This will be found an excellent salad, and does not disagree with weak stomachs.

TOMATO FIGS.—The following is the method of preserving tomatoes in Bermuda, and thereby manufacturing a sweet preserve, something like figs:

Take six pounds of sugar to one peck (or sixteen pounds) of the fruit, seald and remove the skin in the usual way, cook them over a fire, their own juice being sufficient, without the addition of water, until the sugar penetrates, and they are clarified; they are then shaken, spread on dishes, flattened and dried in the sun. A small quantity of the syrup should be occasionally sprinkled over them whilst drying, after which pack them down in boxes, treating each layer with powdered sugar. The syrup is afterwards concentrated and bottled for use. They keep from year to year, and retain their flavor surprisingly, which is nearly that of the best quality of fresh figs. The pear-shaped or single tomatoes answer the purpose best. Ordinary brown sugar may be used, a large portion of which is retained in the syrup.

GINGER BEER.—Pour two gallons of boiling water on two pounds of brown sugar, or one quart of molasses, one and a half ounces of cream of tartar, and the same of ginger; stir them well, and put it into a cask. When milk-warm, put in half a pint of good yeast, stopping the cask close and shaking it well.—Bottle in about twenty-four hours. In ten days it will sparkle like champagne. One or two lemons sliced in will much improve it. It is an excellent refreshing beverage in warm weather.

QUICK GINGER BEER.—To a pail of water, add two ounces of ginger, one pint of molasses, and a gill of good yeast. In two hours it is fit for use.

RUSKS.—Beat 7 eggs, mix with them a half-pint of new warm milk, in which $\frac{1}{4}$ lb. of butter has been melted; add $\frac{1}{4}$ pint of yeast, and 3 ounces of sugar; put them gradually into as much flour as will make a light paste, nearly as thin as batter. Let it rise before the fire half an hour—add more flour so as to make it a little stiffer, work it well, divide it in small loaves or cakes, 5 or 6 inches wide, and flatten them. The cakes, when first baked, are very good, buttered for tea.

PLUM CAKE.—Four pounds flour, 1 lb. sugar, 3 lbs. currants, $\frac{1}{2}$ lb. raisins, $\frac{1}{4}$ oz. mace, cloves, and one nutmeg; the peel of a lemon, and half a pound almonds; 2 lbs. butter, pint cream, pint wine, 1 glass brandy, 12 eggs, half pint yeast, 1 pound citron, lemon and orange.

BLACKING FOR HARNESS.—Take three sticks of the best black sealing-wax, dissolved in half a pint of spirits of wine; to be kept in a glass bottle, and well shaken previous to use. Applied with a soft sponge.

WINE SAUCE FOR PUDDINGS.—One cup butter, 1 cup white sugar, and a wine-glass of wine; half a nutmeg—mix all well together, and beat it till light.